PEPROTECH®

Manufacturer of Quality Cytokine Products

# 2015-2016
# 製品カタログ

• CYTOKINES • ANIMAL-FREE RECOMBINANT PROTEINS • ANTIBODIES • ELISA DEVELOPMENT KITS • CELL CULTURE MEDIA

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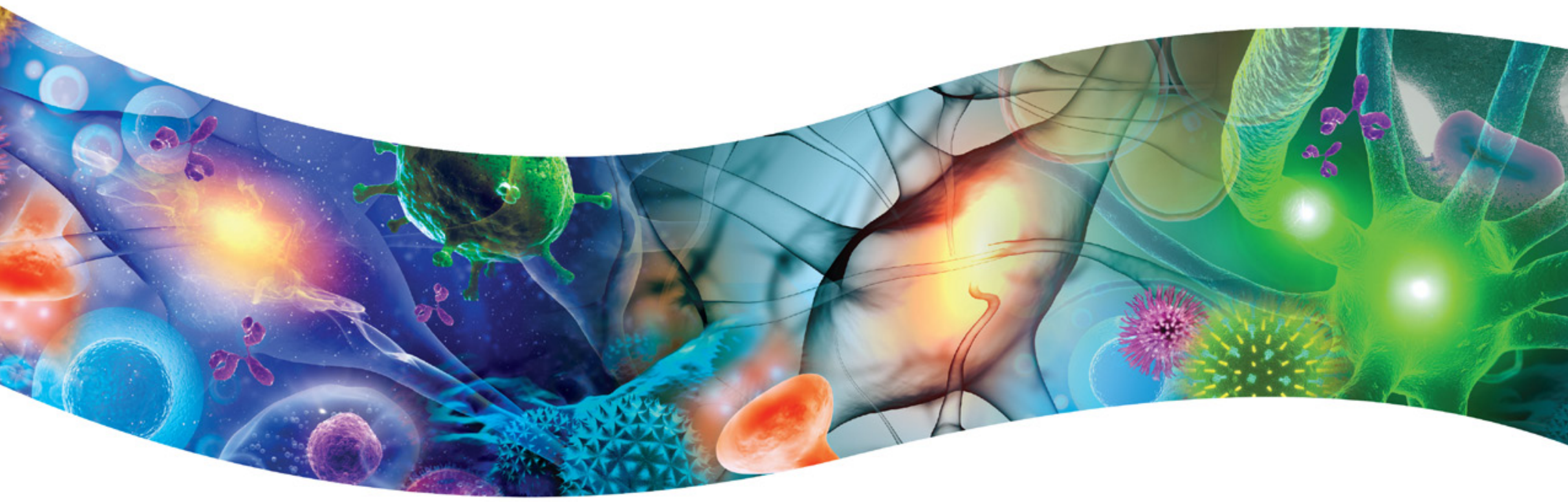
PEPROTECH
2015 - 2016 製品カタログ

# 2015-2016
# 製品カタログ

*Manufacturer of Quality Cytokine Products*



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# ペプロテックについて

ペプロテックはライフサイエンス研究用組換えサイトカインの開発と製造に焦点をあて､1988 年にアメリカ･ニュージャージー州に設立されたバイオテクノロジー企業です。今日、当社はアメリカでの GMP 準拠製造施設を含む最新の製造施設と、カナダ、メキシコ、ブラジル、イギリス、フランス、ドイツ、オーストリア、スウェーデン、イスラエル、韓国、中国のカスタマーサービスオフィスを持つグローバル企業に成長しました。

ペプロテックはこれまで 2,000 以上の製品において、品質、信頼、一貫性を確実にするためのプロトコルを開発 / 最適化してきました。製品には大腸菌、昆虫および哺乳類細胞由来組換えタンパク質、これらに対するモノクローナル / ポリクローナル抗体、ELISA 構築用キット、細胞培養用培地、および他のサイトカイン関連試薬が含まれます。

今日の科学者 / 研究者のお客様のニーズと需要に答えられるよう､高品質の製品とサービスをお届けすることがペプロテックの務めであり、サイエンスコミュニティにおいて今後も信頼されるパートナーであり続けたいと思っています。

## お立ち寄りください

ペプロテックは、年間を通じて AACR（American Association for Cancer Research）、ISSCR（International Society for Stem Cell Research）、Society for Neuroscience、Experimental Biology をはじめ、世界各地の学会に定期的に出展しています。お客様の研究ニーズをお聞かせいただくためにも、また当社の最新製品をご紹介させていただくためにも、是非とも当社ブースにお立ち寄りください。最新の学会展示会出展スケジュールについては、当社ウェブサイト **www.peprotech.com** をご覧ください。

## ペプロテックの製品に関して

本カタログの掲載製品はすべて研究用です。医療用・臨床診断用としては使用しないよう、十分ご注意ください。

また、製品名に **CARTAGENA** の表記のある製品は「遺伝子組換え生物等の使用等の規制による生物の多様性の確保に関する法律（通称：カルタヘナ法）」の使用規制対象製品です。ご使用に際しては、法規制に則し適切にお取り扱いください。

## 容量に関して

組換えタンパク質では動物由来成分不含組換えタンパク質を含め、一部製品を除き、本カタログに掲載した Size A、Size B、1mg の容量以外に、100μg、250μg、500μg もご利用いただけます。詳細に関しては、輸入代理店 / 販売取扱店までお問い合わせください。

## 価格に関して

本カタログには価格が掲載されておりません。価格、包装、納期等に関しては、輸入代理店 / 販売取扱店までお問い合わせください。

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# サイトカインパッケージ

ペプロテックのサイトカインパッケージは、共用の使用目的で購入されることの多いサイトカインが組み合わされたパッケージ製品です。それぞれ個々のサイトカインを購入される必要がなく、パッケージとしてのお得な製品となっています。

## 樹状細胞用サイトカインパッケージ

### Human Dendritic Cell Cytokine Package

ヒト樹状細胞の培養に必要な主要サイトカインのパッケージセット。

カタログ番号：HDC

以下のバイアル2本の組換えサイトカインが含まれます。

- 100µg Human IL-4
- 100µg Human GM-CSF

### Animal-Free Human Dendritic Cell Cytokine Package

上記パッケージに動物由来成分不含製品を使用したセット。

カタログ番号：AF-HDC

以下のバイアル2本の組換えサイトカインが含まれます。

- 100µg Animal-Free Human IL-4
- 100µg Animal-Free Human GM-CSF

### Murine Dendritic Cell Cytokine Package

マウス樹状細胞の培養に必要な主要サイトカインのパッケージセット。

カタログ番号：MDC

以下のバイアル2本の組換えサイトカインが含まれます。

- 100µg Murine IL-4
- 100µg Murine GM-CSF

### Animal-Free Murine Dendritic Cell Cytokine Package

上記パッケージに動物由来成分不含製品を使用したセット。

カタログ番号：AF-MDC

以下のバイアル2本の組換えサイトカインが含まれます。

- 100µg Animal-Free Murine IL-4
- 100µg Animal-Free Murine GM-CSF

## 造血幹細胞増殖用サイトカインパッケージ

### Human Hematopoietic Stem Cell Expansion Cytokine Package

ヒト造血幹細胞の *ex vivo* における増殖に必要な主要サイトカインのパッケージセット（IL-3包装品）。

カタログ番号：HHSC3

以下のバイアル4本の組換えサイトカインが含まれます。

- 100µg Human Flt3 Ligand
- 100µg Human SCF
- 100µg Human TPO
- 10µg Human IL-3

### Animal-Free Human Hematopoietic Stem Cell Expansion Cytokine Package

上記パッケージに動物由来成分不含製品を使用したセット。

カタログ番号：AF-HHSC3

以下のバイアル4本の組換えサイトカインが含まれます。

- 100µg Animal-Free Human Flt3 Ligand
- 100µg Animal-Free Human SCF
- 100µg Animal-Free Human TPO
- 10µg Animal-Free Human IL-3

### Murine Hematopoietic Stem Cell Expansion Cytokine Package

マウス造血幹細胞の *ex vivo* における増殖に必要な主要サイトカインのパッケージセット（IL-3包装品）。

カタログ番号：MHSC3

以下のバイアル4本の組換えサイトカインが含まれます。

- 100µg Murine Flt3 Ligand
- 100µg Murine SCF
- 100µg Murine TPO
- 10µg Murine IL-3

### Human Hematopoietic Stem Cell Expansion Cytokine Package

ヒト造血幹細胞の *ex vivo* における増殖に必要な主要サイトカインのパッケージセット（IL-6包装品）。

カタログ番号：HHSC6

以下のバイアル4本の組換えサイトカインが含まれます。

- 100µg Human Flt3 Ligand
- 100µg Human SCF
- 100µg Human TPO
- 20µg Human IL-6

### Animal-Free Human Hematopoietic Stem Cell Expansion Cytokine Package

上記パッケージに動物由来成分不含製品を使用したセット。

カタログ番号：AF-HHSC6

以下のバイアル4本の組換えサイトカインが含まれます。

- 100µg Animal-Free Human Flt3 Ligand
- 100µg Animal-Free Human SCF
- 100µg Animal-Free Human TPO
- 20µg Animal-Free Human IL-6

### Murine Hematopoietic Stem Cell Expansion Cytokine Package

マウス造血幹細胞の *ex vivo* における増殖に必要な主要サイトカインのパッケージセット（IL-6包装品）。

カタログ番号：MHSC6

以下のバイアル4本の組換えサイトカインが含まれます。

- 100µg Murine Flt3 Ligand
- 100µg Murine SCF
- 100µg Murine TPO
- 10µg Murine IL-6

※ サイトカインパッケージに含まれる組換えサイトカインは大腸菌発現製品です。

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# ELISA 関連製品

## TMB ELISA 構築用キット

ペプロテックの検出用製品ラインナップに、発色基質として TMB を用いる ELISA 構築用キットが加わりました。新製品の TMB ELISA Development Kit は、従来の ABTS ELISA Development Kit の簡便さと、お求めになりやすい価格はそのままに、TMB 基質とストレプトアビジン -HRP の使用で最適なパフォーマンスが得られるように調製されています。TMB ELISA Development Kit には、サンドイッチ法での天然型および組換え型タンパク質の検出･定量に必要な捕捉抗体、ビオチン化検出抗体、較正済み標準物質、ストレプトアビジン -HRP、キット専用プロトコルが含まれています。

## ELISA バッファーキット

ペプロテックの ELISA Buffer Kit のバッファーは、当社の ABTS ELISA Development Kit と併せてご使用いただいたときに最適なパフォーマンスが得られるよう特別に調製されています。本製品には付属の 10 枚の 96 ウェル ELISA プレートの測定に必要な構成品がすべて揃っており、詳細な取扱説明書も含まれています。測定への干渉を最小限に抑え、保存期間を最大限に保つために、すべての試薬に滅菌ろ過処理を施しています。当社の ABTS ELISA Development Kit と一緒のご購入をお勧めいたします。

使用が簡単なこの ELISA Buffer Kit では、付属のプレートに捕捉抗体があらかじめコーティングされておりません（本製品には抗体は含まれておりません）。本キットをひとつの独立した製品としてご購入することも可能ですので、すでに所有されている捕捉抗体や検出抗体を用いて測定法を構築し、最適化することもできます。ELISA における実際の抗体濃度および検出範囲は測定法により異なります。

**キットの内容：**

- 20× プレートコーティングバッファー(PBS)
- 1× ブロッキングバッファー
- 20× 検体希釈液
- 20× 洗浄バッファー
- 調製済みABTS
- 未コーティング滅菌済み96ウェルELISA プレート10枚
- プレートシーリングフィルム 50枚
- バッファー取扱説明書

| ELISA バッファーキット | カタログ番号 |
|---|---|
| ELISA Buffer Kit | 900-K00 |
| ELISA Buffer Kit and EDK Combination | |

# 細胞培養用培地製品

## ヒトES細胞およびヒトiPS細胞用培地

### *PeproGrow-hESC*

PeproGrow-hESC は、フィーダーフリーでのヒト ES 細胞およびヒト iPS 細胞用の維持・増殖培地です。化学的組成が完全に明らかで、フェノールレッドや血清を含んでおらず、BD Matrigel ™を表面コーティングマトリックスとして使用します。この培地は、未分化多能性（SSEA4+/Oct4+）のヒト ES 細胞およびヒト iPS 細胞の培養への使用を目的としており、フローサイトメトリーにより自発的分化率が 15% 未満と示されています。独自組成のこの培地には、FGF-basic などの関連成長因子が使用されていますが、現在販売されている他のヒト ES 細胞および iPS 細胞用培地の大半に添加されているインスリンは含まれていません。

ラトガース大学（アメリカ・ニュージャージー州）の Stem Cell Training Course とペプロテックが共同で開発した PeproGrow-hESC は、基礎培地 500mL または 100mL 入りのボトルと凍結乾燥された成長因子（Human FGF-basic を含む関連成長因子）のバイアル（1 本）がセットになっています。

#### PeproGrow-hESCの特徴

- フェノールレッド不含
- インスリン不含
- 優れたコロニー形成効率
- リーディングメーカー自社製の高品質組換えサイトカインを使用
- ラトガース大学 Stem Cell Training Course との共同開発、同コースで使用

| 幹細胞用培地 | カタログ番号 | 容量 |
|---|---|---|
| PeproGrow-hESC | BM-hESC | 500mL |
| PeproGrow-hESC | BM-hESC | 100mL |


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# 動物由来成分不含ヒトES細胞およびヒトiPS細胞用培地

## *PeproGrow Animal-Free hESC*

PeproGrow Animal-Free hESC は、フィーダーフリーでのヒト ES 細胞およびヒト iPS 細胞用の動物由来成分を含まない（アニマルフリー）維持・増殖培地です。化学的組成が完全に明らかで、フェノールレッドや血清を含んでおらず、当社の動物由来成分不含ヒトビトロネクチンを表面コーティングマトリックスとして使用します。この培地は､未分化多能性（SSEA4+/Oct4+）のヒト ES 細胞およびヒト iPS 細胞の培養への使用を目的としており､フローサイトメトリーにより自発的分化率が 15% 未満と示されています。独自組成のこの培地には、FGF-basic や特異な TGF-β 経路活性化因子などの関連成長因子が使用されていますが、現在販売されている他のヒト ES 細胞および iPS 細胞用培地の大半に添加されているインスリンは含まれていません。

ラトガース大学 Stem Cell Training Course とペプロテックが共同で開発した PeproGrow Animal-Free hESC は、基礎培地 500mL または 100mL 入りのボトルと凍結乾燥された成長因子のバイアル（1 本）がセットになっており、動物由来成分不含アルブミン含有基礎培地のキット（カタログ番号 AF-hESC-R-500 および AF-hESC-R-100）と、低タンパク質基礎培地のキット（カタログ番号 AF-LP-hESC-R-500 および AF-LP-hESC-R-100）の 2 種類からお選びいただけます。

二つの別売関連製品として、Animal-Free Human Vitronectin Matrix and Buffer Kit（カタログ番号 AF-VMB-220）､Cell Passaging/Non-Enzymatic Detachment Buffer（カタログ番号 CPD-125）をご用意しています。

| 幹細胞用培地 | キット/単品カタログ番号 |
|---|---|
| **PeproGrow Animal-Free hESC Medium 500mL Kit** | **AF-hESC-R-500** |
| Basal Medium | AF-BM-hESC-R-500 |
| Growth Factor Vial for 500mL Basal Medium | AF-GF-hESC-500 |
| **PeproGrow Animal-Free hESC Medium 100mL Kit** | **AF-hESC-R-100** |
| Basal Medium | AF-BM-hESC-R-100 |
| Growth Factor Vial for 100mL Basal Medium | AF-GF-hESC-100 |
| **PeproGrow Animal-Free hESC Medium Low Protein 500mL Kit** | **AF-LP-hESC-500** |
| Basal Medium | AF-BM-LP-hESC-500 |
| Growth Factor Vial for 500mL Basal Medium | AF-GF-hESC-500 |
| **PeproGrow Animal-Free hESC Medium Low Protein 100mL Kit** | **AF-LP-hESC-100** |
| Basal Medium | AF-BM-LP-hESC-100 |
| Growth Factor Vial for 100mL Basal Medium | AF-GF-hESC-100 |

## PeproGrow Animal-Free hESC用別売関連製品

| 関連製品 | カタログ番号 |
|---|---|
| **Animal-Free Human Vitronectin Matrix and Buffer Kit** | **AF-VMB-220** |
| Animal-Free Human Vitronectin Matrix (500µg) | |
| PBS + Kolliphor P 188 (220mL) | |
| **Cell Passaging/Non-Enzymatic Detachment Buffer** | **CPD-125** |
| PBS+HEPES+EDTA (125mL) | |

# 細胞培養用培地製品（続き）

## CHO 細胞用培地

### *PeproGrow CD-CHO/PeproGrow AF-CHO*

PeproGrow CD-CHO と PeproGrow AF-CHOの2種類のCHO細胞用培地は、CHO-S細胞（ライフテクノロジーズ社 カタログ番号 11619-012、R800-07またはA11557-01）の *in vitro* 培養用として、浮遊培養法による組換えタンパク質の発現を使用目的としています。

PeproGrow CD-CHOは、動物由来成分やタンパク質を含まず、かつ化学的組成が明らかな無血清完全培地です。PeproGrow AF-CHOは、動物由来成分やタンパク質を含まない無血清完全培地です（非動物由来の加水分解物を含有）。いずれもL-アラニル-L-グルタミン、アミノ酸、ビタミン、塩類を含有する調製済み培地で、播種密度$0.5 \times 10^6$ cells/mLでの5日間回分培養への使用を推奨しています。ライフテクノロジーズ社のCHO-S細胞には馴化プロセスは必要ありません。

#### PeproGrow CD-CHO および PeproGrow AF-CHO の特徴

- PeproGrow CD-CHO（カタログ番号 AF-CD-CHO）：動物由来成分やタンパク質を含まない、化学的組成が明らかな無血清培地
- PeproGrow AF-CHO（カタログ番号 AF-CHO）：動物由来成分やタンパク質を含まない無血清培地
- L-アラニル-L-グルタミンを含有した調製済み完全培地
- 良好な組換えタンパク質発現を実現

| CHO細胞用培地 | カタログ番号 | 容量 |
|---|---|---|
| PeproGrow CD-CHO | AF-CD-CHO | 1Liter (L) |
| PeproGrow AF-CHO | AF-CHO | 1Liter (L) |

## HEK293 細胞用培地

### *PeproGrow HEK293*

PeproGrow HEK293は、動物由来成分やタンパク質を含まない、化学的組成が明らかな無血清完全培地で、HEK293細胞（ライフテクノロジーズ社 FreeStyle™ 293-F細胞、カタログ番号 R790-07）の *in vitro* 培養に用います。この培地は、浮遊培養法による組換えタンパク質の発現を使用目的としており、播種密度$0.6 \times 10^6$ cells/mLでの5日間回分培養への使用を推奨しています。培地は調整済みで、L-アラニル-L-グルタミン、アミノ酸、ビタミン、塩類を含有しています。ライフテクノロジーズ社のFreeStyle™ 293-F細胞には馴化プロセスは必要ありません。

| HEK293細胞用培地 | カタログ番号 | 容量 |
|---|---|---|
| PeproGrow HEK293 | AF-CD-HEK293 | 1Liter (L) |


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## 内皮細胞用培地

### *PeproGrow-EPC/PeproGrow-MacroV/PeproGrow-MicroV*

PeproGrow-EPC、PeproGrow-MacroV、PeproGrow-MicroVは、それぞれ骨髄または末梢血由来内皮前駆細胞用、大血管由来内皮細胞用、小血管由来内皮細胞用に開発した *in vitro* 培養用の内皮細胞用培地です。

これら3種類の培地の組成は、内皮細胞の特徴的な形態と機能を維持し、内皮細胞に特異的かつ重要なマーカーとなる内皮型一酸化窒素合成酵素（eNOS）の活性を高めます。このため、これら培地は、内皮前駆細胞だけでなく、大血管や微小血管内皮細胞に対しても最適な細胞培養環境を整え、他社製培地を上回る細胞増殖速度を実現しています。ヒト成熟内皮細胞およびヒト初代細胞/前駆細胞用に最適化されていますが、ウシ、ブタ、ウサギ、ラット、マウスの成熟内皮細胞および初代/前駆細胞に使用することもできます。

ペプロテックの内皮細胞用培地キットは、基礎培地の500mLボトルと、内皮細胞の増殖に欠かせない各種の成長因子と成分の入った成長添加剤の小ボトルのセットになっており、成長添加剤を基礎培地に添加するだけで完全培養培地となります。ペプロテックの内皮細胞用培地には、完全培地としての使用期限を短くしたり、実験結果に影響を及ぼす細胞へのストレスやマスキング効果を引き起こす可能性のある抗生物質、抗真菌剤、フェノールレッドを含みません。

| 内皮細胞用培地 | カタログ番号 |
|---|---|
| **PeproGrow-EPC Kit (ENDO-BM & GS-EPC)** | **700-EPC** |
| Basal Medium | |
| Growth Supplement-EPC* | |
| **PeproGrow-MacroV Kit (ENDO-BM & GS-MacroV)** | **700-MacroV** |
| Basal Medium | |
| Growth Supplement-MacroV* | |
| **PeproGrow-MicroV Kit (ENDO-BM & GS-MicroV)** | **700-MicroV** |
| Basal Medium | |
| Growth Supplement-MicroV* | |

* FBS含有

## 動物由来成分不含培地添加剤キット

### *PeproGrow-1*

PeproGrow-1は、哺乳類接着細胞株の増殖維持を目的とした、動物由来成分やタンパク質を含まない、化学的組成が明らかな無血清細胞培養培地用添加剤です。HEK293細胞、HeLa細胞、A549細胞で試験済みで、他の接着細胞の培養条件の改善も図ることができると期待されています（ただし、試験済み以外の細胞に対する適切性を保証するものではありません）。本キット製品は、DMEM/F12基礎培地（ライフテクノロジーズ社 カタログ番号 10565）に添加して使用することを目的としており、本キットで10 Lの培地が調製可能です。キットは次のものから構成されています。

- 化学的組成が明らかな塩類を含有する血清代替液（100×）
- 脂肪酸および脂質の混合物を含有する、無血清培地における細胞増殖の向上を目的とした脂質混合液（200×）

| 動物由来成分不含培地添加剤キット | キット/単品カタログ番号 |
|---|---|
| **PeproGrow-1 Kit (SR100 & LM200)** | **700-C100** |
| Serum Replacement Solution | SR100 |
| Lipid Mixture Solution | LM200 |

# 動物由来成分不含組換えタンパク質

　ペプロテックは最新の研究と高まる需要に対応するため、動物由来成分不含（アニマルフリー）組換えタンパク質の専用製造施設の稼動も含め、製造能力をさらに拡大しました。当社では、動物由来成分を含む培地を使用したときと同等の、もしくはそれ以上のパフォーマンスを実現するための動物由来成分不含組換えタンパク質やその他の関連試薬をご提供することを目標としています。

| 製品名 | カタログ番号 | Size A | Size B | |
|---|---|---|---|---|
| Human/Murine/Rat Activin A | AF-120-14E | 2 μg | 10 μg | 1 mg |
| Human BAFF | AF-310-13 | 5 μg | 20 μg | 1 mg |
| Human BD-5 | AF-300-68 | 5 μg | 20 μg | 1 mg |
| Human BDNF | AF-450-02 | 2 μg | 10 μg | 1 mg |
| Human BMP-2 | AF-120-02 | 2 μg | 10 μg | 1 mg |
| Human BMP-4 | AF-120-05ET | 2 μg | 10 μg | 1 mg |
| Human sCD40 Ligand | AF-310-02 | 10 μg | 50 μg | 1 mg |
| Human CNTF | AF-450-13 | 5 μg | 20 μg | 1 mg |
| Rat CNTF | AF-450-50 | 5 μg | 25 μg | 1 mg |
| Human EGF | AF-100-15 | 100 μg | 500 μg | 1 mg |
| Murine EGF | AF-315-09 | 100 μg | 500 μg | 1 mg |
| Rat EGF | AF-400-25 | 20 μg | 100 μg | 1 mg |
| Human FGF-acidic | AF-100-17A | 10 μg | 50 μg | 1 mg |
| Human FGF-basic (154 a.a.) | AF-100-18B | 10 μg | 50 μg | 1 mg |
| Human FGF-basic (146 a.a.) | AF-100-18C | 10 μg | 50 μg | 1 mg |
| Murine FGF-basic | AF-450-33 | 10 μg | 50 μg | 1 mg |
| Human FGF-4 | AF-100-31 | 5 μg | 25 μg | 1 mg |
| Human FGF-8 | AF-100-25 | 5 μg | 25 μg | 1 mg |
| Human FGF-9 | AF-100-23 | 5 μg | 20 μg | 1 mg |
| Human FGF-10 | AF-100-26 | 5 μg | 25 μg | 1 mg |
| Human FGF-18 | AF-100-28 | 5 μg | 25 μg | 1 mg |
| Human FGF-21 | AF-100-42 | 5 μg | 25 μg | 1 mg |
| Human Flt3-Ligand | AF-300-19 | 2 μg | 10 μg | 1 mg |
| Human G-CSF | AF-300-23 | 2 μg | 10 μg | 1 mg |
| Murine G-CSF | AF-250-05 | 2 μg | 10 μg | 1 mg |
| Human GDF-3 | AF-120-22 | 5 μg | 20 μg | 1 mg |
| Human GDNF | AF-450-10 | 2 μg | 10 μg | 1 mg |
| Murine GDNF | AF-450-44 | 2 μg | 10 μg | 1 mg |
| Human GM-CSF | AF-300-03 | 5 μg | 20 μg | 1 mg |
| Murine GM-CSF | AF-315-03 | 5 μg | 20 μg | 1 mg |
| Rat GM-CSF | AF-400-23 | 5 μg | 20 μg | 1 mg |
| Human Growth Hormone | AF-100-40 | 10 μg | 50 μg | 1 mg |
| Human Heregulinβ-1 | AF-100-03 | 10 μg | 50 μg | 1 mg |
| Human IFN-β | AF-300-02B | 5 μg | 20 μg | 1 mg |
| Human IFN-γ | AF-300-02 | 20 μg | 100 μg | 1 mg |
| Murine IFN-γ | AF-315-05 | 20 μg | 100 μg | 1 mg |
| Human IFN-λ1 | AF-300-02L | 5 μg | 20 μg | 1 mg |
| Human IGF-I | AF-100-11 | 100 μg | 500 μg | 1 mg |
| Human IGF-II | AF-100-12 | 10 μg | 50 μg | 1 mg |
| Human IGF-BP3 | AF-100-08 | 5 μg | 25 μg | 1 mg |
| Human IGF-BP7 | AF-350-09 | 5 μg | 25 μg | 1 mg |
| Human IL-1α | AF-200-01A | 2 μg | 10 μg | 1 mg |
| Human IL-1β | AF-200-01B | 2 μg | 10 μg | 1 mg |
| Human IL-1RA | AF-200-01RA | 20 μg | 100 μg | 1 mg |
| Human IL-2 | AF-200-02 | 10 μg | 50 μg | 1 mg |
| Murine IL-2 | AF-212-12 | 5 μg | 20 μg | 1 mg |
| Rat IL-2 | AF-400-02 | 5 μg | 20 μg | 1 mg |
| Human IL-3 | AF-200-03 | 2 μg | 10 μg | 1 mg |

| 製品名 | カタログ番号 | Size A | Size B | |
|---|---|---|---|---|
| Murine IL-3 | AF-213-13 | 2 µg | 10 µg | 1 mg |
| Human IL-4 | AF-200-04 | 5 µg | 20 µg | 1 mg |
| Murine IL-4 | AF-214-14 | 5 µg | 20 µg | 1 mg |
| Human IL-6 | AF-200-06 | 5 µg | 20 µg | 1 mg |
| Murine IL-6 | AF-216-16 | 2 µg | 10 µg | 1 mg |
| Human IL-7 | AF-200-07 | 2 µg | 10 µg | 1 mg |
| Human IL-8 (72a.a) | AF-200-08M | 5 µg | 25 µg | 1 mg |
| Human IL-9 | AF-200-09 | 2 µg | 10 µg | 1 mg |
| Human IL-10 | AF-200-10 | 2 µg | 10 µg | 1 mg |
| Human IL-11 | AF-200-11 | 2 µg | 10 µg | 1 mg |
| Human IL-13 | AF-200-13 | 2 µg | 10 µg | 1 mg |
| Human IL-15 | AF-200-15 | 2 µg | 10 µg | 1 mg |
| Human IL-16 | AF-200-16A | 2 µg | 10 µg | 1 mg |
| Human IL-17 | AF-200-17 | 5 µg | 25 µg | 1 mg |
| Human IL-17E | AF-200-24 | 5 µg | 25 µg | 1 mg |
| Human IL-21 | AF-200-21 | 2 µg | 10 µg | 1 mg |
| Human IL-22 | AF-200-22 | 2 µg | 10 µg | 1 mg |
| Human IL-33 | AF-200-33 | 2 µg | 10 µg | 1 mg |
| Human IL-36γ | AF-200-36G | 2 µg | 10 µg | 1 mg |
| Human KGF | AF-100-19 | 2 µg | 10 µg | 1 mg |
| Human LIF | AF-300-05 | 5 µg | 25 µg | 1 mg |
| Human M-CSF | AF-300-25 | 2 µg | 10 µg | 1 mg |
| Murine M-CSF | AF-315-02 | 2 µg | 10 µg | 1 mg |
| Rat M-CSF | AF-400-28 | 2 µg | 10 µg | 1 mg |
| Human MCP-1 | AF-300-04 | 5 µg | 20 µg | 1 mg |
| Human β-NGF | AF-450-01 | 20 µg | 100 µg | 1 mg |
| Murine Noggin | AF-250-38 | 5 µg | 20 µg | 1 mg |
| Human NT-3 | AF-450-03 | 2 µg | 10 µg | 1 mg |
| Human NT-4 | AF-450-04 | 2 µg | 10 µg | 1 mg |
| Human Oncostatin M | AF-300-10T | 2 µg | 10 µg | 1 mg |
| Human PDGF-AA | AF-100-13A | 2 µg | 10 µg | 1 mg |
| Human PDGF-BB | AF-100-14B | 2 µg | 10 µg | 1 mg |
| Human PlGF-1 | AF-100-06 | 5 µg | 25 µg | 1 mg |
| Human sRANK Ligand | AF-310-01 | 2 µg | 10 µg | 1 mg |
| Human RANTES (CCL5) | AF-300-06 | 5 µg | 20 µg | 1 mg |
| Human SCF | AF-300-07 | 2 µg | 10 µg | 1 mg |
| Murine SCF | AF-250-03 | 2 µg | 10 µg | 1 mg |
| Rat SCF | AF-400-22 | 2 µg | 10 µg | 1 mg |
| Human SDF-1α (CXCL12) | AF-300-28A | 2 µg | 10 µg | 1 mg |
| Human SDF-1β (CXCL12) | AF-300-28B | 2 µg | 10 µg | 1 mg |
| Human TGF-α | AF-100-16A | 20 µg | 100 µg | 1 mg |
| Human TGF-$\beta_1$ | AF-100-21C | 2 µg | 10 µg | 1 mg |
| Human TGF-$\beta_3$ | AF-100-36E | 2 µg | 10 µg | 1 mg |
| Human TNF-α | AF-300-01A | 10 µg | 50 µg | 1 mg |
| Murine TNF-α | AF-315-01A | 5 µg | 20 µg | 1 mg |
| Human TPO | AF-300-18 | 2 µg | 10 µg | 1 mg |
| Murine TPO | AF-315-14 | 2 µg | 10 µg | 1 mg |
| Rat TPO | AF-400-34 | 2 µg | 10 µg | 1 mg |
| Human TWEAK | AF-310-06 | 5 µg | 25 µg | 1 mg |
| Human $VEGF_{121}$ | AF-100-20A | 2 µg | 10 µg | 1 mg |
| Human $VEGF_{165}$ | AF-100-20 | 2 µg | 10 µg | 1 mg |
| Murine $VEGF_{165}$ | AF-450-32 | 2 µg | 10 µg | 1 mg |
| Human Vitronectin | AF-140-09 | 100 µg | 500 µg | 1 mg |

F

# Activin A

**Synonyms:** Inhibin beta-1, FRP, FSH (Follicle-Stimulating Hormone)-releasing protein

## Recombinant Proteins

| PRODUCT | | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|---|
| Human/Murine/Rat Activin A | CARTAGENA | 120-14 | *Insect cells* | 26.0 kDa | 2µg | 10µg | 1mg |
| Human/Murine/Rat Activin A | | 120-14E | *E. coli* | 26.0 kDa | 2µg | 10µg | 1mg |

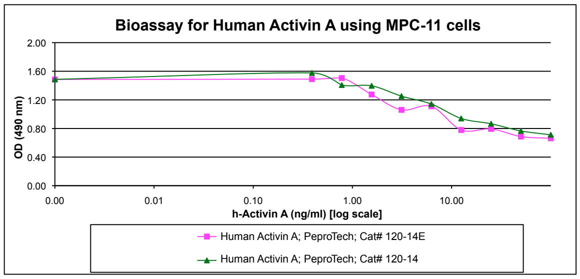
*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human/Murine/Rat Activin A | AF-120-14E | *E.coli* | 26.0 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

*Bioassay analysis of human Activin A. Determined by its ability to inhibit the proliferation of mouse MCP-11 cells.*




A

# Activin B

**Synonyms:** Activin beta-B, Inhibin beta-2

## Recombinant Proteins

| PRODUCT | | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|---|
| Human Activin B | CARTAGENA | 120-15 | *Insect cells* | 25.6 kDa | 1µg | 5µg | 1mg |

*Additional sizes available please inquire*

# Adiponectin

**Synonyms:** Acrp-30, APM-1, AdipoQ, Gelatin-binding protein, GBP-28

## Recombinant Proteins

| PRODUCT | | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|---|
| Human Adiponectin | CARTAGENA | 450-24 | *Insect cells* | 25.9 kDa | 5µg | 25µg | 1mg |
| Murine Adiponectin | CARTAGENA | 315-26 | *Insect cells* | 25.8 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-Human Adiponectin | 500-M126 | *Mouse* | E, WB, NA | 500µg |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# AITRL *Activation-Induced TNFR member Ligand*

**Synonyms:** TNFSF18, GITRL, TL-6

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human AITRL | 310-22 | *E.coli* | 14.3 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human AITRL | 500-P244 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human AITRL | 500-P244Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# Aminopeptidase

**Synonyms:** none

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Aeromonas Aminopeptidase | 100-10 | *E.coli* | 31.4 kDa | 100µg | 500µg | 1mg |

*Additional sizes available please inquire*

# Amphiregulin

**Synonyms:** AR, AREG, Colorectum cell-Derived Growth Factor (CRDGF)

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Amphiregulin | 100-55B | *E.coli* | 11.3 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*

# ANG-1, ANG-2 *Angiopoietin-1, Angiopoietin-2*

**Synonyms: ANG-1:** ANGPT1, KIAA0003; **ANG-2:** ANGPT2

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human ANG-1 | 130-06 | *HeLa cells* | 56.3 kDa | 5µg | 20µg | 1mg |
| Human ANG-2 | 130-07 | *CHO cells* | 50.1 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

# ANGPTL-3 *Angiopoietin-like protein 3*

**Synonyms:** ANG-5, ANGPT5

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human ANGPTL-3 | 130-18 | *CHO cells* | 52.9 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*

# ANGPTL-7 *Angiopoietin-like protein 7*

**Synonyms:** Angiopoietin-related protein 7, Cornea-Derived Transcript 6 protein, CDT6

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human ANGPTL-7 CARTAGENA | 130-22 | *Insect cells* | 38.2 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

A

# ApoA-1 *Apolipoprotein A-1*

**Synonyms:** none

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human ApoA-1 | 350-11 | *E.coli* | 28.2 kDa | 20µg | 100µg | 1mg |

*Additional sizes available please inquire*

# ApoE2 *Apolipoprotein E2*

**Synonyms:** none

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human ApoE2 | 350-12 | *E.coli* | 34.3 kDa | 100µg | 500µg | 1mg |

*Additional sizes available please inquire*

A

# ApoE3 *Apolipoprotein E3*

**Synonyms:** none

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human ApoE3 | 350-02 | *E.coli* | 34.4 kDa | 100µg | 500µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human ApoE3 | 500-P238 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human ApoE3 | 500-P238Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# ApoE4 *Apolipoprotein E4*

**Synonyms:** none

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human ApoE4 | 350-04 | *E.coli* | 34.4 kDa | 100µg | 500µg | 1mg |

*Additional sizes available please inquire*



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# Apo-SAA, Apo-SAA1

**Synonyms:** none

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Apo-SAA | 300-13 | *E.coli* | 11.7 kDa | 10µg | 50µg | 1mg |
| Human Apo-SAA1 | 300-53 | *E.coli* | 11.7 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*

# APRIL *A Proliferation-Inducing Ligand*

**Synonyms:** TNFSF13, TRDL-1α

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human APRIL CARTAGENA | 310-10C | *Insect cells* | 16.3 kDa | 2µg | 10µg | |
| Murine APRIL | 315-13 | *E.coli* | 21.9 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*



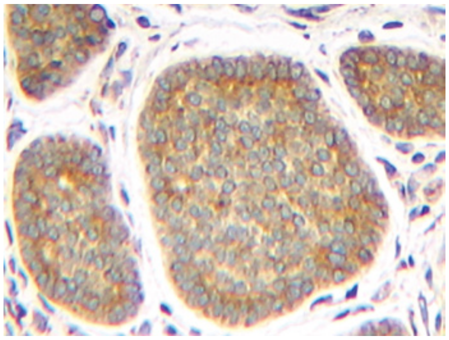
## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human APRIL | 500-P192 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human APRIL | 500-P192Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

*Human carcinoid (FFPE) stained with rabbit anti-human APRIL at 0.25 µg/mL. Staining of tumor cells. Tissue samples were provided by the Cooperative Human Tissue Network, which is funded by the National Cancer Institute. Other investigators may have received specimens from the same subjects. Photograph provided by Patsy Ruegg for PeproTech.*



# Arg-C

**Synonyms:** none

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Lysobacter Enzymogenes Arg-C CARTAGENA | 450-54 | *Insect cells* | 26.8 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

# Arginine Deiminase

**Synonyms:** ADI

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Mycoplasma Arginine Deiminase | 150-12 | *E.coli* | 46.3 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

# Artemin

**Synonyms:** ART, ARTN, Enovin, Neublastin

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Artemin | 450-17 | *E.coli* | 24.2 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*



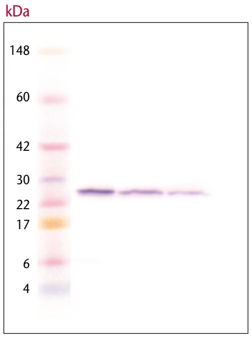
## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human Artemin | 500-P245 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human Artemin | 500-P245Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

*Representative Western Transfer (Blot) analysis of human Artemin using Rabbit anti-human Artemin at 0.20µg/ml.*




# 4-1BB Ligand

**Synonyms:** TNFSF9, CD137L

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human 4-1BB Ligand | 310-11 | *E.coli* | 19.5 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human 4-1BB Ligand | 500-P169 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human 4-1BB Ligand | 500-P169Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# 4-1BB Receptor

**Synonyms:** TNFRSF9, CD137 antigen, T-cell antigen ILA

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human 4-1BB Receptor | 310-15 | *E.coli* | 17.7 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human 4-1BB Receptor | 500-P167G | *Goat* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human 4-1BB Receptor | 500-P167GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

Human 4-1BB Receptor **ABTS CATALOG #** 900-K208

B

# B7-1 Fc

**Synonyms:** B7, BB1, CD80

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human B7-1 Fc | 310-32 | *CHO cells* | 50.0 kDa | 20µg | 100µg | 1mg |

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Murine B7-1 | 500-P128 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Murine B7-1 | 500-P128Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# B7-2 Fc

**Synonyms:** B70, CD86, ETC1

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human B7-2 Fc | 310-33 | *CHO cells* | 51.2 kDa | 20µg | 100µg | 1mg |

*Additional sizes available please inquire*

# BAFF *B-cell Activating Factor belonging to the TNF Family*

**Synonyms:** TNFSF13B, TALL-1, BLyS, THANK, TNFSF20, ZTNF4

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human BAFF | 310-13 | *E.coli* | 17.0 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human BAFF | AF-310-13 | *E.coli* | 17.0 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human BAFF | 500-P163G | *Goat* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human BAFF | 500-P163GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

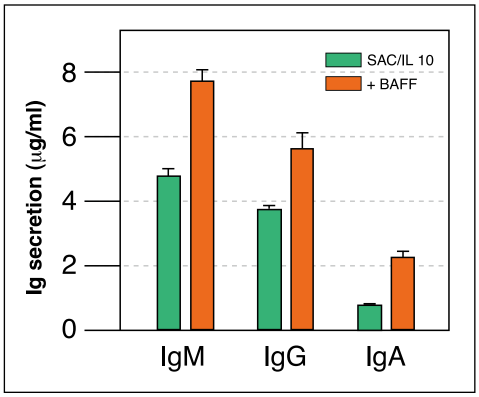
B

## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-Human BAFF | 500-M64 | *Mouse* | E, WB, NA | 500µg |

*BAFF enhances Ig secretion by human B cells co-stimulated through the BcR. Ig secretion was determined using heavy chain specific ELISAs after 12-14 days of culture.*

*S.G. Tangye et. al. Seminars in Immunology (2006) 18:305-317.*




# BAFF Receptor *B-cell Activating Factor belonging to the TNF Receptor Family*

**Synonyms:** BAFFR, TNFRSF13C, BLyS Receptor 3

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human BAFF Receptor | 310-13R | *E.coli* | 7.7 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*

# BCA-1/BLC (CXCL13) *B-cell Attracting Chemokine-1*

**Synonyms:** CXCL13, BLC (murine), BLR1 Ligand

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human BCA-1 | 300-47 | *E.coli* | 10.3 kDa | 5µg | 20µg | 1mg |
| Murine BCA-1/BLC | 250-24 | *E.coli* | 9.8 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human BCA-1 | 500-P141 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human BCA-1 | 500-P141Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# BCMA *B-Cell Maturation Antigen*

B

**Synonyms:** TNFRSF17, BCM

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human BCMA | 310-16 | *E.coli* | 5.3 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

# BD-1,-2,-3,-4,-5 *β-Defensin 1-5*

**Synonyms:** **BD-1:** DEFB1, HBD1

**BD-2:** DEFB2, DEFB4A, Skin-Antimicrobial Peptide 1, SAP1

**BD-3:** DEFB3, DEFB103A

**BD-4:** Beta-defensin 104, DEFB4

**BD-5:** BD5, DEFB105a, DEFB5

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human BD-1 (36 a.a.) | 300-51 | *E.coli* | 3.9 kDa | 5µg | 20µg | 1mg |
| Human BD-1 (47 a.a.) | 300-51A | *E.coli* | 5.0 kDa | 5µg | 20µg | 1mg |
| Human BD-2 | 300-49 | *E.coli* | 4.3 kDa | 5µg | 20µg | 1mg |
| Human BD-3 | 300-52 | *E.coli* | 5.1 kDa | 5µg | 20µg | 1mg |
| Human BD-4 | 300-65 | *E.coli* | 6.0 kDa | 5µg | 20µg | 1mg |
| Human BD-5 | 300-68 | *E.coli* | 5.8 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

*BD-1, -2, -3, -4, -5 continued on next page...*

# BD-1,-2,-3,-4,-5 *continued...*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human BD-5 | AF-300-68 | *E.coli* | 5.8 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human BD-1 | 500-P253 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human BD-1 | 500-P253Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Human BD-2 | 500-P161G | *Goat* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human BD-2 | 500-P161GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Human BD-3 | 500-P241 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human BD-3 | 500-P241Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Human BD-4 | 500-P268 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human BD-4 | 500-P268Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

B

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human BD-1 | **ABTS CATALOG #** 900-K202 |
| Human BD-2 | **ABTS CATALOG #** 900-K172 |
| Human BD-3 | **ABTS CATALOG #** 900-K210 |
| Human BD-4 | **ABTS CATALOG #** 900-K435 |

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Human BD-1 | **ABTS CATALOG #** 900-M202 |
| Human BD-2 | **ABTS CATALOG #** 900-M172 |
| Human BD-3 | **ABTS CATALOG #** 900-M210 |
| Human BD-4 | **ABTS CATALOG #** 900-M435 |

# BDNF *Brain-Derived Neurotrophic Factor*

**Synonyms:** Abrineurin

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human BDNF | 450-02 | *E.coli* | 27.0 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human BDNF | AF-450-02 | *E.coli* | 27.0 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human BDNF | 500-P84 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human BDNF | 500-P84Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# Betacellulin

**Synonyms:** BTC

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Betacellulin | 100-50 | *E.coli* | 9.0 kDa | 5µg | 20µg | 1mg |
| Murine Betacellulin | 315-21 | *E.coli* | 9.0 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human Betacellulin | 500-P254 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human Betacellulin | 500-P254Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

*Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.*

| | |
|---|---|
| Human Betacellulin | **ABTS CATALOG #** 900-K372 |

# BMP-2 *Bone Morphogenetic Protein-2*

**Synonyms:** BMP-2A

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human BMP-2 | 120-02 | *E.coli* | 26.0 kDa | 2µg | 10µg | 1mg |
| Human BMP-2 | 120-02C | *CHO cells* | 26.0 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human BMP-2 | AF-120-02 | *E.coli* | 26.0 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human BMP-2 | 500-P195 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human BMP-2 | 500-P195Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human BMP-2 | **ABTS CATALOG #** 900-K255 |
| Human BMP-2 | **TMB CATALOG #** 900-T255 |

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Human BMP-2 | **ABTS CATALOG #** 900-M255 |
| Human BMP-2 | **TMB CATALOG #** 900-TM255 |

B

# BMP-3 *Bone Morphogenetic Protein-3*

**Synonyms:** Osteogenin, BMP-3A

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human BMP-3 | 120-24B | *E.coli* | 25.2 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*

# BMP-4 *Bone Morphogenetic Protein-4*

**Synonyms:** BMP-2B, DVR4

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human BMP-4 | 120-05 | *HeLa cells* | 25.6 kDa | 1µg | 5µg | 1mg |
| Human BMP-4 | 120-05ET | *E.coli* | 23.9 kDa | 2µg | 10µg | 1mg |
| Murine BMP-4 | 315-27 | *E.coli* | 23.9 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

B

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human BMP-4 | AF-120-05ET | *E.coli* | 23.9 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-Human BMP-4 | 500-M121 | *Mouse* | I, E, WB, N | 500µg |

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# BMP-5 *Bone Morphogenetic Protein-5*

**Synonyms:** none

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human BMP-5 | 120-39 | *CHO cells* | 31.2 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

# BMP-6 *Bone Morphogenetic Protein-6*

**Synonyms:** VGR, VG-1-related protein

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human BMP-6 | 120-06 | *HEK293 cells* | 26.2 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

# BMP-7 *Bone Morphogenetic Protein-7*

**Synonyms:** Osteogenic Protein-1 (OP-1)

### Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human BMP-7 | 120-03 | *CHO cells* | 28.8 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

### Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human BMP-7 | 500-P198 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human BMP-7 | 500-P198Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

### Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-human BMP-7 | 500-M123 | *Mouse* | I, E, NA | 500µg |

B

# BMP-10 *Bone Morphogenetic Protein-10*

**Synonyms:** none

### Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human BMP-10 | 120-40 | *HEK293 cells* | 24.4 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

# BMP-13/CDMP-2 *Bone Morphogenetic Protein-13*

**Synonyms:** Cartilage-Derived Morphogenetic Protein-2, GDF-6

### Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human BMP-13/CDMP-2 | 120-04 | *E.coli* | 27.0 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*

# BRAK (CXCL14) *Breast and Kidney-expressed chemokine*

**Synonyms:** CXCL14, bolekine, NJAC

### Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human BRAK | 300-50 | *E.coli* | 9.4 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

### Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human BRAK | 500-P237 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human BRAK | 500-P237Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# C1 Inhibitor

**Synonyms:** Plasma protease C1 inhibitor, C1inh, C1 Esterase Protein, C1-inhibiting factor, Serpin G1

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human C1 Inhibitor | 130-20 | *CHO cells* | 49.4 kDa | 50µg | 200µg | 1mg |

*Additional sizes available please inquire*

# C5a

**Synonyms:** Complement Component 5a, Complement 5a, CPAMD4, C3 and PZP-like alpha-2-macroglobulin domain-containing protein 4

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human C5a | 300-70 | *E.coli* | 8.28 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

# C10 (CCL6)

**Synonyms:** CCL6, MRP-1

C

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Murine C10 | 250-06 | *E.coli* | 10.7 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Murine C10 | 500-P112 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Murine C10 | 500-P112Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# Carboxypeptidase-B

**Synonyms:** Cpb1

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Rat Carboxypeptidase-B | 400-00 | *E.coli* | 35.1 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

# Cardiotrophin-1

**Synonyms:** CT-1

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Cardiotrophin-1 | 300-32 | *E.coli* | 21.1 kDa | 2µg | 10µg | 1mg |
| Murine Cardiotrophin-1 | 250-25 | *E.coli* | 21.3 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human Cardiotrophin-1 | 500-P101 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human Cardiotrophin-1 | 500-P101Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# sCD14 *soluble CD14*

**Synonyms:** Monocyte differentiation antigen CD14

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human sCD14 | 110-01 | *HEK293 cells* | 35.6 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*

# sCD22 *soluble CD22*

**Synonyms:** Leu-14, B-lymphocyte cell adhesion molecule, BL-CAM, Siglec-2

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human sCD22 | 100-01 | *CHO cells* | 75.0 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human sCD22 | 500-P227 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human sCD22 | 500-P227Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

C

# sCD23 *soluble CD23*

**Synonyms:** CD23 antigen, Fc-epsilon-RII, Lymphocyte IgE receptor, BLAST-2

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human sCD23 | 310-26 | *E.coli* | 19.2 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

# sCD27 Ligand *soluble CD27 Ligand*

**Synonyms:** TNFSF7, CD70, CD27L

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human sCD27 Ligand | 310-30 | *CHO cells* | 18.8 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*

# sCD30 Ligand *soluble CD30 Ligand*

**Synonyms:** TNFSF8, CD153, CD30L

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human sCD30 Ligand | 450-42 | *CHO cells* | 21.3 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*

# sCD34 *soluble CD34*

**Synonyms:** Hematopoietic progenitor cell antigen CD34

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human sCD34 | 310-31 | *CHO cells* | 27.4 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

# sCD40 Ligand *soluble CD40 Ligand*

**Synonyms:** TNFSF5, TRAP, CD154, Gp39, T-BAM

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human sCD40 Ligand | 310-02 | *E.coli* | 16.3 kDa | 10µg | 50µg | 1mg |
| Murine sCD40 Ligand | 315-15 | *E.coli* | 16.4 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

C

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human sCD40 Ligand | AF-310-02 | *E.coli* | 16.3 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human sCD40 Ligand | 500-P142G | *Goat* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human sCD40 Ligand | 500-P142GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

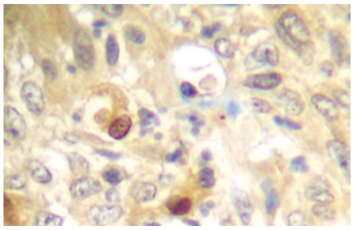
| | |
|---|---|
| Human sCD40 Ligand | **ABTS CATALOG #** 900-K145 |

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Human sCD40 Ligand | **ABTS CATALOG #** 900-M145 |

*Human cervical squamous cell carcinoma (FFPE) stained with Goat Anti-Human sCD40L at 2.5 µg/mL.*
*Tissue samples were provided by the Cooperative Human Tissue Network, which is funded by the NCI. Other investigators may have received specimens from the same subject. Photograph provided by Patsy Ruegg for Peprotech.*



# sCD100 *soluble CD100*

**Synonyms:** Semaphorin-4D, BB18, A8, GR3

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human sCD100 | 310-29 | *CHO cells* | 78.9 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*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# CDNF *Cerebral Dopamine Neurotrophic Factor*

**Synonyms:** ARMETL1

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human CDNF | 450-05 | *E.coli* | 18.5 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

# Chemerin

**Synonyms:** Tazarotene-Induced Gene 2 (TIG2), RARRES2

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Chemerin | 300-66 | *E.coli* | 15.6 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*



# CNTF *Ciliary Neurotrophic Factor*

**Synonyms:** none

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human CNTF | 450-13 | *E.coli* | 22.8 kDa | 5µg | 20µg | 1mg |
| Rat CNTF | 450-50 | *E.coli* | 22.7 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human CNTF | AF-450-13 | *E.coli* | 22.8 kDa | 5µg | 20µg | 1mg |
| Rat CNTF | AF-450-50 | *E.coli* | 22.7 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human CNTF | 500-P140 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human CNTF | 500-P140Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Rat CNTF | 500-P79 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Rat CNTF | 500-P79Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human CNTF | **ABTS CATALOG #** 900-K158 |
| Rat CNTF | **ABTS CATALOG #** 900-K65 |

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Rat CNTF | **ABTS CATALOG #** 900-M65 |

# CTACK (CCL27) *Cutaneous T-cell Attracting Chemokine*

**Synonyms:** CCL27, ALP, Skinkine, Eskine

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human CTACK | 300-54 | *E.coli* | 10.2 kDa | 5µg | 20µg | 1mg |
| Murine CTACK | 250-26 | *E.coli* | 10.9 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human CTACK | 500-P294 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human CTACK | 500-P294Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

*Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP Conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells..*

Human CTACK **ABTS CATALOG #** 900-K213

## Mini ELISA Development Kit

*Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP Conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.*

Human CTACK **ABTS CATALOG #** 900-M213

C

# CTGF *Connective Tissue Growth Factor*

**Synonyms:** CCN2, Hypertrophic Chondrocyte-Specific protein 24 (HCS24)

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human CTGF | 120-19 | *E.coli* | 11.0 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human CTGF | 500-P252 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human CTGF | 500-P252Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

*Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.*

Human CTGF **ABTS CATALOG #** 900-K317

## Mini ELISA Development Kit

*Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.*

Human CTGF **ABTS CATALOG #** 900-M317



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# CTGFL/WISP-2 *Connective Tissue Growth Factor-Like protein*

**Synonyms:** CCN5, CT-58

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human CTGFL/WISP-2 | 120-16 | *E.coli* | 24.3 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human CTGFL/WISP-2 | 500-P212 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human CTGFL/WISP-2 | 500-P212Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# CXCL16

**Synonyms:** SRPSOX

C

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human CXCL16 | 300-55 | *E.coli* | 10.1 kDa | 5µg | 25µg | 1mg |
| Murine CXCL16 | 250-28 | *E.coli* | 9.9 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human CXCL16 | 500-P200 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human CXCL16 | 500-P200Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine CXCL16 | 500-P201G | *Goat* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Murine CXCL16 | 500-P201GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

*Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells..*

Human CXCL16 — **ABTS CATALOG #** 900-K230

## Mini ELISA Development Kit

*Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.*

Human CXCL16 — **ABTS CATALOG #** 900-M230

# CYR61

**Synonyms:** CNN1, GIGI protein, Cysteine-rich 61

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human CYR61 | 120-25 | *E.coli* | 39.4 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

# DKK-1, -2, -3 *Dickkopf-related protein 1-3*

**Synonyms: DKK-1:** Dickkopf-1, SK; **DKK-2:** Dickkopf-2; **DKK-3:** Dickkopf-3, REIC

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human DKK-1 | 120-30 | *HEK293 cells* | 25.8 kDa | 2µg | 10µg | 1mg |
| Human DKK-2 | 120-45 | *CHO cells* | 25.8 kDa | 2µg | 10µg | 1mg |
| Human DKK-3 | 120-46 | *CHO cells* | 36.3 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

C-D

# sDLL-1 *soluble DLL-1*

**Synonyms:** Delta-like protein-1, Delta-1

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human sDLL-1 | 140-08 | *HEK293 cells* | 56.3 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

# sDLL-4 *soluble DLL-4*

**Synonyms:** Delta-like protein-4, Drosophila Delta homolog 4

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human sDLL-4 | 140-07 | *HEK293 cells* | 54.3 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human sDLL-4 | 500-P279 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human sDLL-4 | 500-P279Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |


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# EGF *Epidermal Growth Factor*

**Synonyms:** Urogastrone, URG

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Murine EGF | 315-09 | *E.coli* | 6.0 kDa | 100µg | 500µg | 1mg |
| Rat EGF | 400-25 | *E.coli* | 6.2 kDa | 20µg | 100µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human EGF | AF-100-15 | *E.coli* | 6.2 kDa | 100µg | 500µg | 1mg |
| Murine EGF | AF-315-09 | *E.coli* | 6.0 kDa | 100µg | 500µg | 1mg |
| Rat EGF | AF-400-25 | *E.coli* | 6.0 kDa | 20µg | 100µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human EGF | 500-P45 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human EGF | 500-P45Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine EGF | 500-P174G | *Goat* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Murine EGF | 500-P174GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Rat EGF | 500-P277 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Rat EGF | 500-P277Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-Murine EGF | 500-M136 | *Rat* | E, WB, NA | 500µg |

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human EGF | **ABTS CATALOG #** 900-K05 |
| Murine EGF | **ABTS CATALOG #** 900-K179 |
| Rat EGF | **ABTS CATALOG #** 900-K390 |

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Human EGF | **ABTS CATALOG #** 900-M05 |
| Rat EGF | **ABTS CATALOG #** 900-M390 |

# EGF Receptor *Epidermal Growth Factor Receptor*

**Synonyms:** EGFR, ErbB1

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human EGF Receptor | 100-15R | *CHO cells* | 68.6 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human EGF Receptor | 500-P306 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human EGF Receptor | 500-P306Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# EGF-L7 *Epidermal Growth Factor-Like protein 7*

**Synonyms:** MEGF7, Multiple EGF-like domains protein 7, NOTCH4-like protein, VE-statin, Zneu1

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human EGF-L7 | 100-61 | *E.coli* | 27.4 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

# EG-VEGF *Endocrine Gland-derived Vascular Endothelial Growth Factor*

**Synonyms:** Prokineticin 1, PROK1

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human EG-VEGF | 100-44 | *E.coli* | 9.6 kDa | 5µg | 20µg | 1mg |
| Murine EG-VEGF | 315-29 | *E.coli* | 9.6 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human EG-VEGF | 500-P188G | *Goat* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human EG-VEGF | 500-P188GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human EG-VEGF | **ABTS CATALOG #** 900-K244 |





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# EMP-II

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human EMP-II | 500-P172G | *Goat* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human EMP-II | 500-P172GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# ENA-78 (CXCL5) *Epithelial Neutrophil Activating peptide-78*

**Synonyms:** CXCL5

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human ENA-78 (5-78 a.a.) | 300-22 | *E.coli* | 8.0 kDa | 5µg | 20µg | 1mg |
| Human ENA-78 (8-78 a.a.) | 300-22B | *E.coli* | 7.8 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human ENA-78 | 500-P91 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human ENA-78 | 500-P91Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested



# Endostatin

**Synonyms:** COL18A1

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Endostatin | 150-01 | *E.coli* | 20.2 kDa | 20µg | 100µg | 1mg |

*Additional sizes available please inquire*

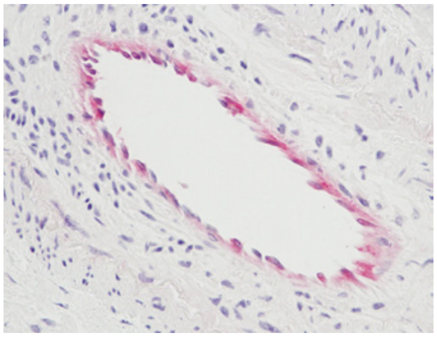
## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human Endostatin | 500-P262 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human Endostatin | 500-P262Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

*Anti-Human Endostatin (Catalog #500-P262) Human breast invasive ductal carcinoma (FFPE) stained with Rabbit Anti-Human Endostatin at 0.25 µg/mL. Staining of endothelial cells. Tissue samples were provided by the Cooperative Human Tissue Network, which is funded by the National Cancer Institute. Other investigators may have received specimens from the same subjects.*



# Enterokinase

**Synonyms:** none

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Enterokinase | 450-48C | *CHO cells* | 108.7 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*

# Eotaxin (CCL11)

**Synonyms:** CCL11

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Eotaxin | 300-21 | *E.coli* | 8.3 kDa | 5µg | 20µg | 1mg |
| Murine Eotaxin | 250-01 | *E.coli* | 8.4 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human Eotaxin | 500-P41 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human Eotaxin | 500-P41Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Human Eotaxin | 500-P41G | *Goat* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human Eotaxin | 500-P41GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine Eotaxin | 500-P67 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Murine Eotaxin | 500-P67Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## Monoclonal Antibodies

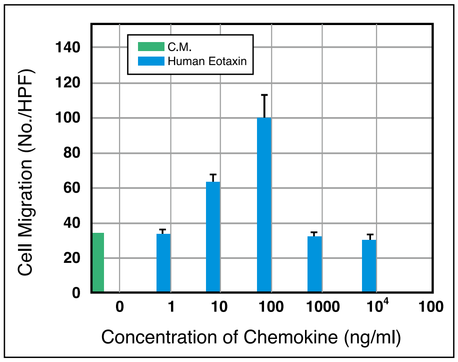
| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-Human Eotaxin | 500-M25 | *Mouse* | E, WB, NA | 500µg |

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human Eotaxin | **ABTS CATALOG #** 900-K69 |
| Murine Eotaxin | **ABTS CATALOG #** 900-K68 |

*Chemotaxis analysis of Human Eotaxin. Data shows the migration of purified human eosinophils in response to Human Eotaxin.*



# Eotaxin-2 (CCL24)

**Synonyms:** CCL24, MPIF-2, CkB-6

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Eotaxin-2 | 300-33 | *E.coli* | 8.8 kDa | 5µg | 20µg | 1mg |
| Murine Eotaxin-2 | 250-22 | *E.coli* | 10.3 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human Eotaxin-2 | 500-P103G | *Goat* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human Eotaxin-2 | 500-P103GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine Eotaxin-2 | 500-P175G | *Goat* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Murine Eotaxin-2 | 500-P175GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-Human Eotaxin-2 | 500-M31 | *Mouse* | I, E, WB, NA | 500µg |



# Eotaxin-3 (CCL26)

**Synonyms:** CCL26

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Eotaxin-3 | 300-48 | *E.coli* | 8.4 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human Eotaxin-3 | 500-P156G | *Goat* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human Eotaxin-3 | 500-P156GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-Human Eotaxin-3 | 500-M32 | *Mouse* | E, WB, N | 500µg |

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human Eotaxin-3 | **ABTS CATALOG #** 900-K167 |

# Epigen

**Synonyms:** EPG, Epithelial mitogen

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Epigen | 100-51 | *E.coli* | 7.9 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

# Epiregulin

**Synonyms:** EREG

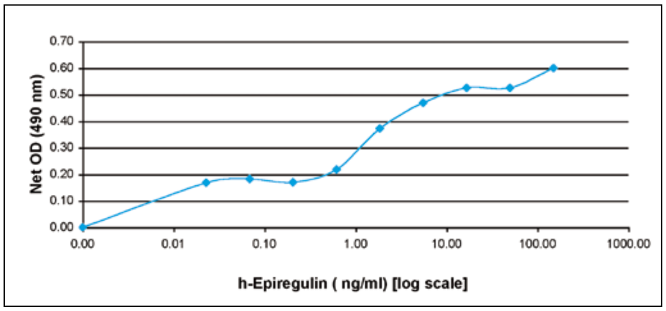
## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Epiregulin | 100-04 | *E.coli* | 5.6 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

E

*Bioassay analysis of human Epiregulin (proliferation) using mouse Balb/c 3T3 cells.*




# EPO

**Synonyms:** Erythropoietin, Epoetin

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human EPO | 100-64 | *CHO cells* | 18.4 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*

# E-Selectin

**Synonyms:** Endothelial Leukocyte Adhesion Molecule 1 (ELAM1), CD62E, SELE

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human E-Selectin | 150-15 | *CHO cells* | 58.6 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*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# Exodus-2 (CCL21)

**Synonyms:** CCL21, 6Ckine, SLC

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Exodus-2 | 300-35 | *E.coli* | 12.2 kDa | 5µg | 20µg | 1mg |
| Murine Exodus-2 | 250-13 | *E.coli* | 12.0 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human Exodus-2 | 500-P109 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human Exodus-2 | 500-P109Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine Exodus-2 | 500-P114 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Murine Exodus-2 | 500-P114Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

Murine Exodus-2 **ABTS CATALOG #** 900-K132

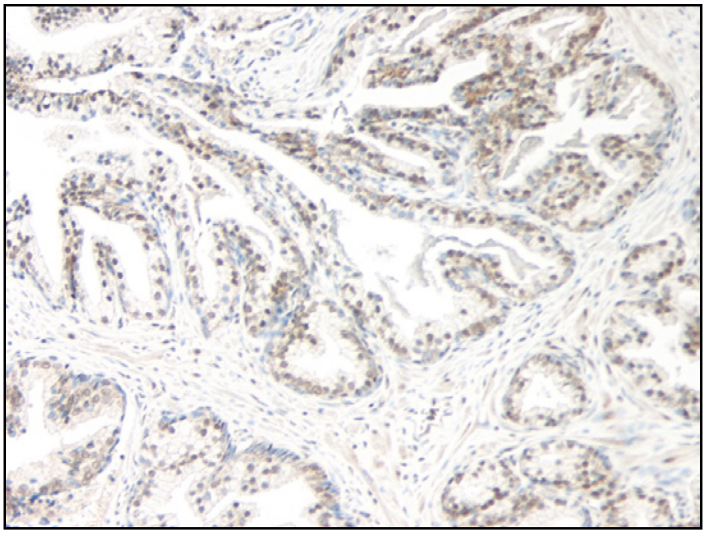
## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

Murine Exodus-2 **ABTS CATALOG #** 900-M132

*Anti-Human Exodus-2 (Catalog #500-P109) Human prostate malignant adenocarcinoma (FFPE) stained with Rabbit Anti-Human Exodus-2 at 0.75 µg/mL.*

*Tissue samples were provided by the Cooperative Human Tissue Network, which is funded by the National Cancer Institute. Other investigators may have received specimens from the same subjects.*



E

# sFas Ligand *soluble Fas Ligand*

**Synonyms:** sFasL, TNFSF6, CD95L, Apo I Ligand, APTL

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human sFas Ligand | 310-03H | *CHO cells* | 17.9 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human sFas Ligand | 500-P184G | *Goat* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human sFas Ligand | 500-P184GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# sFas Receptor *soluble Fas receptor*

F

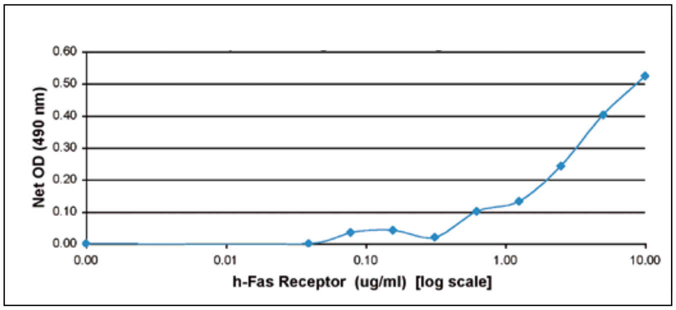
**Synonyms:** sFasR, TNFRSF6, CD95, Fas Antigen, Apo I

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human sFas receptor | 310-20 | *E.coli* | 17.6 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

*Bioassay analysis of Human sFas Receptor. Determined by its ability to inhibit sFas Ligand induced cytotoxicity using Jurkat cells.*




# Fetuin A/AHSG

**Synonyms:** Alpha-2-HS-glycoprotein, Alpha-2-Z-globulin, Ba-alpha-2-glycoprotein

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Fetuin A/AHSG | 140-13 | *HEK293 cells* | 32.9 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*

# FGFs *Fibroblast Growth Factors*

**Synonyms: FGF-acidic:** Fibroblast Growth Factor-acidic, FGF-1, HBGF-1, ECGF-beta; **FGF-basic:** FGF-2, HBGF-2, Prostatropin; **FGF-4:** HST-1, Transforming protein KS3, HBGF-4; **FGF-5:** HBGF-5, Smag-82; **FGF-6:** HBGF-6, HST-2; **FGF-7:** [See KGF Page]; **FGF-8:** FGF-8b, AIGF, HBGF-8; **FGF-9:** GAF (Glia-Activating Factor), HBGF-9; **FGF-10:** FGFA, Keratinocyte Growth Factor-2; **FGF-16:** FGFG; **FGF-17:** FGFH; **FGF-18:** FGFI, zFGF5; **FGF-19:** FGFJ; **FGF-20:** FGFK; **FGF-21:** FGFL; **FGFR1a:** Fibroblast Growth Factor Receptor 1 alpha, BFGFR; **FGFR2a:** Fibroblast Growth Factor Receptor 2 alpha, BEK, KGFR

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human FGF-acidic | 100-17A | *E.coli* | 16.8 kDa | 10µg | 50µg | 1mg |
| Murine FGF-acidic | 450-33A | *E.coli* | 15.9 kDa | 10µg | 50µg | 1mg |
| Rat FGF-acidic | 400-29A | *E.coli* | 15.9 kDa | 10µg | 50µg | 1mg |
| Human FGF-basic (154 a.a.) | 100-18B | *E.coli* | 17.2 kDa | 10µg | 50µg | 1mg |
| Human FGF-basic (146 a.a.) | 100-18C | *E.coli* | 16.4 kDa | 10µg | 50µg | 1mg |
| Murine FGF-basic | 450-33 | *E.coli* | 16.3 kDa | 10µg | 50µg | 1mg |
| Rat FGF-basic | 400-29 | *E.coli* | 16.3 kDa | 10µg | 50µg | 1mg |
| Human FGF-4 | 100-31 | *E.coli* | 19.7 kDa | 5µg | 25µg | 1mg |
| Human FGF-5 | 100-34 | *E.coli* | 27.6 kDa | 10µg | 50µg | 1mg |
| Human FGF-6 | 100-30 | *E.coli* | 18.7 kDa | 5µg | 25µg | 1mg |
| Human FGF-8 | 100-25 | *E.coli* | 22.5 kDa | 5µg | 25µg | 1mg |
| Human FGF-9 | 100-23 | *E.coli* | 23.2 kDa | 5µg | 20µg | 1mg |
| Murine FGF-9 | 450-30 | *E.coli* | 23.3 kDa | 2µg | 10µg | 1mg |
| Human FGF-10 | 100-26 | *E.coli* | 19.3 kDa | 5µg | 25µg | 1mg |
| Human FGF-16 | 100-29 | *E.coli* | 23.6 kDa | 5µg | 25µg | 1mg |
| Human FGF-17 | 100-27 | *E.coli* | 22.7 kDa | 5µg | 25µg | 1mg |
| Human FGF-18 | 100-28 | *E.coli* | 20.1 kDa | 5µg | 25µg | 1mg |
| Human FGF-19 | 100-32 | *E.coli* | 21.8 kDa | 5µg | 25µg | 1mg |
| Human FGF-20 | 100-41 | *E.coli* | 23.2 kDa | 3µg | 15µg | 1mg |
| Human FGF-21 | 100-42 | *E.coli* | 19.5 kDa | 5µg | 25µg | 1mg |
| Human FGF-23 | 100-52 | *E.coli* | 22.5 kDa | 5µg | 20µg | 1mg |
| Murine FGF-23 | 450-55 | *E.coli* | 25.5 kDa | 5µg | 20µg | 1mg |
| Human FGFR1a (IIIc) Fc | 160-02 | *CHO cells* | 65.2 kDa | 10µg | 50µg | 1mg |
| Human FGFR2a (IIIc) Fc | 160-03 | *CHO cells* | 65.6 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*

## *Animal-Free Recombinant Proteins*

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human FGF-acidic | AF-100-17A | *E.coli* | 16.8 kDa | 10µg | 50µg | 1mg |
| Human FGF-basic (154 a.a) | AF-100-18B | *E.coli* | 17.2 kDa | 10µg | 50µg | 1mg |
| Human FGF-basic (146 a.a) | AF-100-18C | *E.coli* | 16.4 kDa | 10µg | 10µg | 1mg |
| Murine FGF-basic | AF-450-33 | *E.coli* | 16.3 kDa | 10µg | 50µg | 1mg |
| Human FGF-4 | AF-100-31 | *E.coli* | 19.7 kDa | 5µg | 25µg | 1mg |
| Human FGF-8 | AF-100-25 | *E.coli* | 22.5 kDa | 5µg | 25µg | 1mg |
| Human FGF-9 | AF-100-23 | *E.coli* | 23.2 kDa | 5µg | 20µg | 1mg |
| Human FGF-10 | AF-100-26 | *E.coli* | 19.3 kDa | 5µg | 25µg | 1mg |
| Human FGF-18 | AF-100-28 | *E.coli* | 20.1 kDa | 5µg | 25µg | 1mg |
| Human FGF-21 | AF-100-42 | *E.coli* | 19.5 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

*FGF continued on next page...*

# FGFs *continued...*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human FGF-acidic | 500-P17 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human FGF-acidic | 500-P17Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Human FGF-basic | 500-P18 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human FGF-basic | 500-P18Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Human FGF-4 | 500-P158 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human FGF-4 | 500-P158Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Human FGF-7/KGF | 500-P19 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human FGF-7/KGF | 500-P19Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine FGF-9 | 500-P66 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Murine FGF-9 | 500-P66Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Human FGF-10 | 500-P151G | *Goat* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human FGF-10 | 500-P151GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Human FGF-16 | 500-P160G | *Goat* | WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human FGF-16 | 500-P160GBt | *Goat* | E, WB, N | 25µg | 50µg | 1mg |
| Anti-Human FGF-17 | 500-P152 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human FGF-17 | 500-P152Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Human FGF-17 | 500-P152G | *Goat* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human FGF-17 | 500-P152GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-Human FGF-basic | 500-M38 | *Mouse* | I, E, WB, NA | 500µg |
| Anti-Human FGF-5 | 500-M40 | *Mouse* | E, N | 500µg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human FGF-basic | **ABTS CATALOG #** 900-K08 |

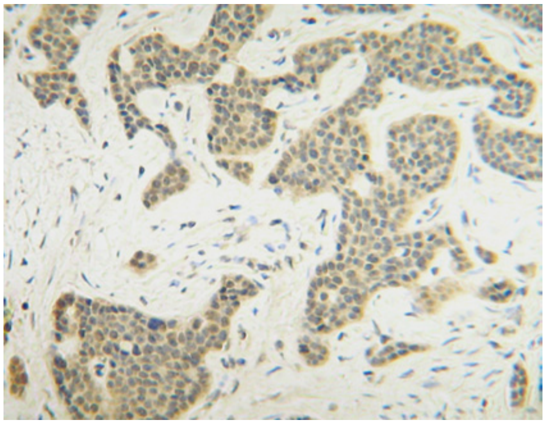
## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Human FGF-basic | **ABTS CATALOG #** 900-M08 |

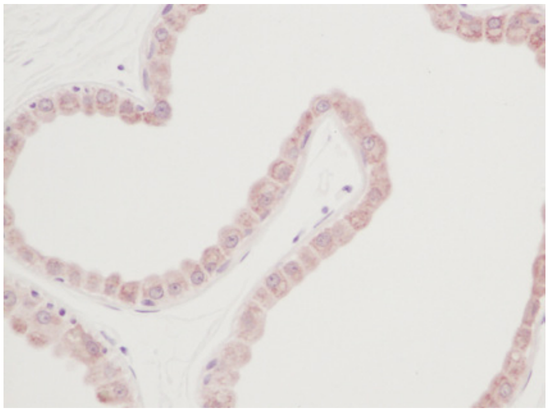
*FGF continued on next page...*

# FGFs *continued...*

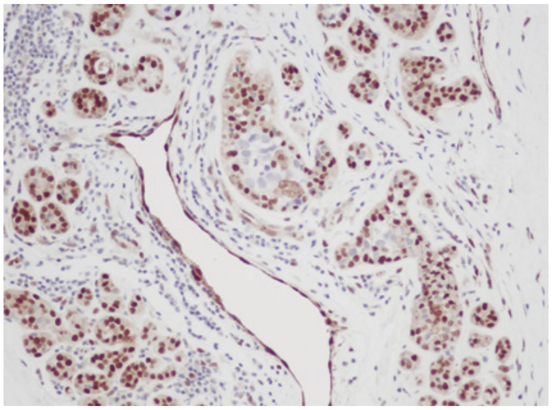


*Human carcinoid tissue (FFPE) stained with goat anti-human FGF-10 at 1.0 µg/ml.*

*Tissue samples were provided by the Cooperative Human Tissue Network, which is funded by the NCI. Other investigators may have received specimens from the same subject. Photograph provided by Patsy Ruegg for PeproTech.*



*Normal skin (FFPE) stained with Rabbit anti-human KGF/FGF-7 at 0.5 µg/ml. Staining of gland epithelial cells. Photograph by Peprotech.*



*Human breast invasive ductal carcinoma (FFPE) stained with rabbit anti-human FGF-basic at 0.25 µg/ml.*

*Tissue samples were provided by the Cooperative Human Tissue Network, which is funded by the NCI. Other investigators may have received specimens from the same subject. Photograph by PeproTech.*

# Flt3-Ligand

**Synonyms:** Flt3L, Fms-related tyrosine kinase 3 Ligand

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Flt3-Ligand | 300-19 | *E.coli* | 17.6 kDa | 2µg | 10µg | 1mg |
| Murine Flt3-Ligand | 250-31L | *E.coli* | 18.6 kDa | 2µg | 10µg | 1mg |

** See page 6 for available Cytokine Packages.*

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Flt3-Ligand | AF-300-19 | *E.coli* | 17.6 kDa | 2µg | 10µg | 1mg |

** See page 6 for available Cytokine Packages.*

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human Flt3-Ligand | 500-P42 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human Flt3-Ligand | 500-P42Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

F

# Follistatin

**Synonyms:** FS, Activin-binding protein

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Follistatin | 120-13 | *E.coli* | 31.5 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human Follistatin | 500-P207 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human Follistatin | 500-P207Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human Follistatin | **ABTS CATALOG #** 900-K299 |

# Fractalkine (CX3CL1)

**Synonyms:** Neurotactin, FKN

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Fractalkine (CX3CL1) | 300-31 | *E.coli* | 8.5 kDa | 5µg | 20µg | 1mg |
| Rat Fractalkine (CX3CL1) | 400-26 | *E.coli* | 8.7 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human Fractalkine | 500-P98 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human Fractalkine | 500-P98Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# sFRP-1 *soluble Frizzled Related Protein-1*

**Synonyms:** Secreted Apoptosis Related Protein-2, SARP-2

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human sFRP-1 | 120-29 | *HeLa cells* | 32.5 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

# Furin

**Synonyms:** FUR, PACE, PCSK3

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Furin CARTAGENA | 450-47 | *Insect cells* | 63.9 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

# gAcrp30

**Synonyms:** Adipolean (human), AMP-1, gad, globular domaine of Acrp30

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human gAcrp30/Adipolean | 450-21 | *E.coli* | 16.6 kDa | 5µg | 25µg | 1mg |
| Murine gAcrp30 | 450-27 | *E.coli* | 16.6 kDa | 5µg | 25µg | 1mg |
| Human gAcrp30/Adipolean Variant | 450-20 | *E.coli* | 18.1 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human gAcrp30/Adipolean | 500-P193G | *Goat* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human gAcrp30/Adipolean | 500-P193GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Human Adipolean Variant | 500-P205 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human Adipolean Variant | 500-P205Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# Galectin-1

**Synonyms:** Galactose-specific lectin-1, Beta-galactoside-binding lectin L-14-I, Galaptin, 14 kDa lectin, S-LAC lectin 1

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Galectin-1 | 450-39 | *E.coli* | 14.5 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human Galectin-1 | 500-P210 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human Galectin-1 | 500-P210Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# Galectin-3

**Synonyms:** Galactose-specific lectin-3, IgE-binding protein, MAC2, L-29, CPB-35

## Recombinant Proteins

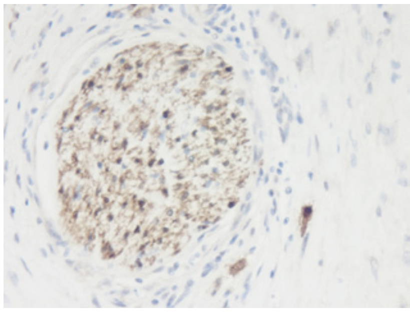
| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Galectin-3 | 450-38 | *E.coli* | 26.0 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

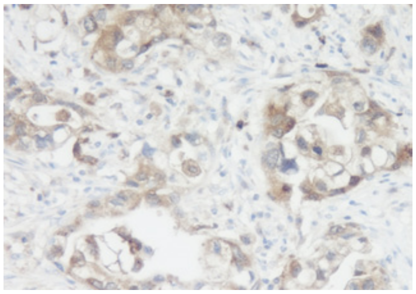
| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human Galectin-3 | 500-P246 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human Galectin-3 | 500-P246Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested



*Human pancreas ductal adenocarcinoma (FFPE) stained with rabbit anti-human Galectin-3 at 31.25 ng/mL. Staining of nerve cells and tumor cells. (photo.1, left) Staining of tumor cells. (photo.2, right)*

*Tissue samples were provided by the Cooperative Human Tissue Network, which is funded by the National Cancer Institute. Other investigators may have received specimens from the same subjects. Photograph provided by Patsy Ruegg for PeproTech.*



# GASP-1 *GDF Associated Serum Protein-1*

**Synonyms:** GASP, KIAA0443, WFIKKNRP

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human GASP-1 | 120-41 | *CHO cells* | 59.9 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

# GCP-2 (CXCL6) *Granulocyte Chemotactic Protein-2*

**Synonyms:** CXCL6, LIX (Murine)

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human GCP-2 | 300-41 | *E.coli* | 7.9 kDa | 5µg | 20µg | 1mg |
| Murine LIX (92 a.a.) | 250-17 | *E.coli* | 9.8 kDa | 5µg | 20µg | 1mg |
| Murine LIX (70 a.a.) | 250-36 | *E.coli* | 7.6 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

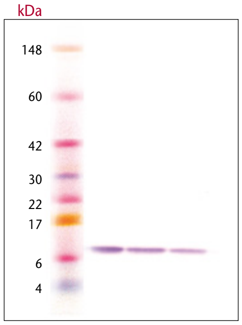
## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human GCP-2 | 500-P120 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human GCP-2 | 500-P120Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine LIX | 500-P146 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Murine LIX | 500-P14Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

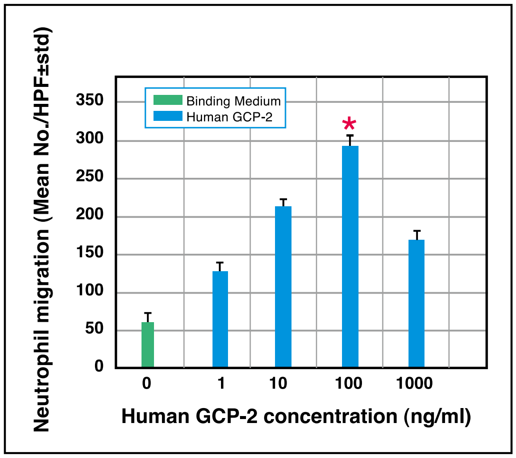
Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested



*Representative Western Transfer (Blot) analysis of human GCP-2 using Rabbit anti-human GCP-2 at 0.20 µg/ml.*




*Human GCP-2 induces chemotaxis of human neutrophils.*



# G-CSF *Granulocyte Colony-Stimulating Factor*

**Synonyms:** CSF-3, MGI-1G, GM-CSFβ, pluripoietin

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human G-CSF | 300-23 | *E.coli* | 18.7 kDa | 2µg | 10µg | 1mg |
| Murine G-CSF | 250-05 | *E.coli* | 19.0 kDa | 2µg | 10µg | 1mg |
| Rat G-CSF | 400-37 | *E.coli* | 21.6 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human G-CSF | AF-300-23 | *E.coli* | 18.7 kDa | 2µg | 10µg | 1mg |
| Murine G-CSF | AF-250-05 | *E.coli* | 19.0 kDa | 2µg | 10µg | 1mg |

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human G-CSF | 500-P43 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human G-CSF | 500-P43Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine G-CSF | 500-P69 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Murine G-CSF | 500-P69Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

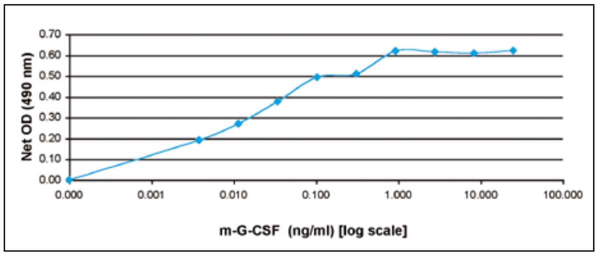
Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human G-CSF | **ABTS CATALOG #** 900-K77 |
| Murine G-CSF | **ABTS CATALOG #** 900-K103 |

*Bioassay analysis of murine G-CSF (proliferation) using mouse M-NFS-60 cells.*




# GDF-2 *Growth/Differentiation Factor-2*

**Synonyms:** BMP-9

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human GDF-2 | 120-07 | *CHO cells* | 24.1 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

G

# GDF-3 *Growth/Differentiation Factor-3*

**Synonyms:** Vgr-2, UNQ222/PRO248

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human GDF-3 | 120-22 | *E.coli* | 26.0 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human GDF-3 | AF-120-22 | *E.coli* | 26.0 kDa | 5µg | 20µg | 1mg |

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human GDF-3 | 500-P235 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human GDF-3 | 500-P235Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# GDF-5 (BMP-14/CDMP-1) *Growth/Differentiation Factor-5*

**Synonyms:** BMP-14, Cartilage-Derived Morphogenetic Protein-1 (CDMP-1)

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human GDF-5 (BMP-14/CDMP-1) | 120-01 | *E.coli* | 27.0 kDa | 10µg | 50µg | 1mg |
| Murine GDF-5 (BMP-14/CDMP-1) | 315-24 | *E.coli* | 27.0 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*

# GDF-7 *Growth/Differentiation Factor-7*

**Synonyms:** BMP-12

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human GDF-7 | 120-37 | *E.coli* | 28.0 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

# GDF-11 *Growth/Differentiation Factor-11*

**Synonyms:** BMP-11

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human GDF-11 | 120-11 | *E.coli* | 25.0 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

# GDF-15/MIC-1 *Growth/Differentiation Factor-15*

**Synonyms:** Placental TGF-β, Prostate Differentiation Factor, Macrophage Inhibitory Cytokine-1, MIC-1

## Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human GDF-15/MIC-1 | 120-28 | *cell culture* | 24.6 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

# GDNF *Glial-Derived Neurotrophic Factor*

**Synonyms:** ATF-1

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human GDNF | 450-10 | *E.coli* | 30.4 kDa | 2µg | 10µg | 1mg |
| Murine GDNF | 450-44 | *E.coli* | 30.4 kDa | 2µg | 10µg | 1mg |
| Rat GDNF | 450-51 | *E.coli* | 30.0 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

G

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human GDNF | AF-450-10 | *E.coli* | 30.4 kDa | 2µg | 10µg | 1mg |
| Murine GDNF | AF-450-44 | *E.coli* | 30.4 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human GDNF | 500-P81 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human GDNF | 500-P81Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# GLP-1 *Glucagon-Like Peptide-1*

**Synonyms:** none

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human GLP-1 | 130-08 | *E.coli* | 3.3 kDa | 200µg | 1000µg | 5mg |

*Additional sizes available please inquire*

# Glu-C

**Synonyms:** V8 Protease

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Staphylococcus Glu-C | 450-46 | *E.coli* | 28.8 kDa | 50µg | 250µg | 1mg |

*Additional sizes available please inquire*

# GM-CSF *Granulocyte-Macrophage Colony Stimulating Factor*

**Synonyms:** CSF-2, Pluripoietin-α, MGI-1GM



## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human GM-CSF | 300-03 | *E.coli* | 14.6 kDa | 5µg | 20µg | 1mg |
| Murine GM-CSF | 315-03 | *E.coli* | 14.2 kDa | 5µg | 20µg | 1mg |
| Rat GM-CSF | 400-23 | *E.coli* | 14.5 kDa | 5µg | 20µg | 1mg |

** See page 6 for available Cytokine Packages.*

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human GM-CSF | AF-300-03 | *E.coli* | 14.6 kDa | 5µg | 20µg | 1mg |
| Murine GM-CSF | AF-315-03 | *E.coli* | 14.2 kDa | 5µg | 20µg | 1mg |
| Rat GM-CSF | AF-400-23 | *E.coli* | 14.5 kDa | 5µg | 20µg | 1mg |

** See page 6 for available Cytokine Packages.*

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human GM-CSF | 500-P33 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human GM-CSF | 500-P33Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine GM-CSF | 500-P65 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Murine GM-CSF | 500-P65Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Rat GM-CSF | 500-P225 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Rat GM-CSF | 500-P225Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

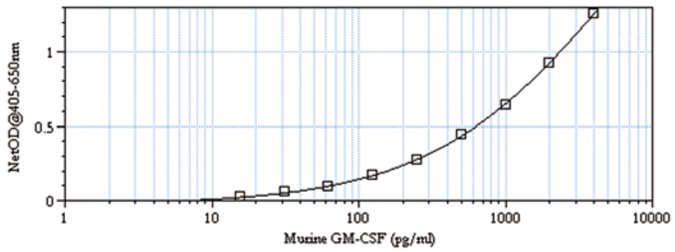
| | |
|---|---|
| Human GM-CSF | **ABTS CATALOG #** 900-K30 |
| Murine GM-CSF | **ABTS CATALOG #** 900-K55 |

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Human GM-CSF | **ABTS CATALOG #** 900-M30 |
| Murine GM-CSF | **ABTS CATALOG #** 900-M55 |

*Standard curve using Murine GM-CSF ELISA development kit.*



# GMF-β *Glial Maturation Factor-beta*

**Synonyms:** GMFB

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human GMF-β | 450-37 | *E.coli* | 16.5 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

# Granzyme B

**Synonyms:** Cytotoxic Cell Protease 1 (CCP1)

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Murine Granzyme B CARTAGENA | 140-03 | *Baculovirus* | 28.9 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

G

# Gremlin-1

**Synonyms:** CKTSF1B1, DAND2, DRM, IHG-2

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Gremlin-1 | 120-42 | *CHO cells* | 18.3 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*

# GRO-α/MGSA, GRO-β, GRO-γ *Growth Regulated Protein*

**Synonyms:** **GRO-α:** CXCL1, GRO1, MGSAα, NAP-3, KC (murine), CINC (rat)
**GRO-β:** CXCL2, GRO2, MGSAβ, MIP-2α
**GRO-γ:** CXCL3, GRO3, MGSAγ, MIP-2β,

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human GRO/MGSA (CXCL1) | 300-11 | *E.coli* | 7.8 kDa | 5µg | 25µg | 1mg |
| Murine KC (CXCL1) | 250-11 | *E.coli* | 7.8 kDa | 5µg | 20µg | 1mg |
| Rat GRO/KC (CXCL1) | 400-10 | *E.coli* | 7.8 kDa | 5µg | 25µg | 1mg |
| Human GRO-β (CXCL2) | 300-39 | *E.coli* | 7.9 kDa | 2µg | 10µg | 1mg |
| Murine MIP-2 (CXCL2) | 250-15 | *E.coli* | 7.8 kDa | 5µg | 20µg | 1mg |
| Rat GRO-β/MIP-2 (CXCL2) | 400-11 | *E.coli* | 7.9 kDa | 5µg | 25µg | 1mg |
| Human GRO-γ (CXCL3) | 300-40 | *E.coli* | 7.9 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human GRO/MGSA | 500-P92 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human GRO/MGSA | 500-P92Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine KC | 500-P115 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Murine KC | 500-P115Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Rat GRO/KC | 500-P74 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Rat GRO/KC | 500-P74Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Human GRO-β | 500-P104 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human GRO-β | 500-P104Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine MIP-2 | 500-P130 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Murine MIP-2 | 500-P130Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Rat GRO-β/MIP-2 | 500-P75 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Rat GRO-β/MIP-2 | 500-P75Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Human GRO-γ | 500-P105 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human GRO-γ | 500-P105Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human GRO/MGSA | **ABTS CATALOG #** 900-K38 |
| Human GRO-β | **ABTS CATALOG #** 900-K120 |
| Rat GRO/KC | **ABTS CATALOG #** 900-K57 |
| Murine MIP-2 | **ABTS CATALOG #** 900-K152 |
| Murine KC | **ABTS CATALOG #** 900-K127 |

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Human GRO-β | **ABTS CATALOG #** 900-M120 |
| Murine KC | **ABTS CATALOG #** 900-M127 |
| Murine MIP-2 | **ABTS CATALOG #** 900-M152 |

# Growth Hormone

**Synonyms:** Somatotropin, GH, GH-N, Growth Hormone 1, Pituitary growth hormone

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Growth Hormone | 100-40 | *E.coli* | 22.3 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Growth Hormone | AF-100-40 | *E.coli* | 22.3 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*

# HB-EGF *Heparin-Binding EGF-like growth factor*

**Synonyms:** HBEGF, Diphtheria Toxin Receptor (DTR)



## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human HB-EGF | 100-47 | *E.coli* | 9.7 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*

# HCC-1(CCL14) *Hemofiltrate CC Chemokine-1*

**Synonyms:** CCL14, HCC-1/HCC-3, NCC-2

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human HCC-1 (66 a.a.) | 300-38B | *E.coli* | 7.8 kDa | 2µg | 10µg | 1mg |
| Human HCC-1 (72 a.a.) | 300-38 | *E.coli* | 8.4 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

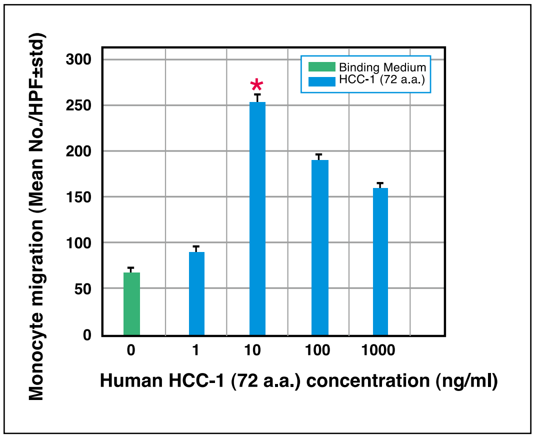
## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human HCC-1 | 500-P106 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human HCC-1 | 500-P106Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

*Human HCC-1 induces chemotaxis of human monocytes.*



# Heregulinβ-1

**Synonyms:** HRG, Neuregulin1 (NRG1-β1), HRG1-β1, Breast cancer cell differentiation factor p45, ARIA (Acetylcholine Receptor Inducing Activity), glial growth factor, Neu differentiation factor (rat)

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Heregulinβ-1 | 100-03 | *E.coli* | 7.5 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Heregulinβ-1 | AF-100-03 | *E.coli* | 7.5 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human Heregulinβ-1 | 500-P288 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human Heregulinβ-1 | 500-P288Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

H

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

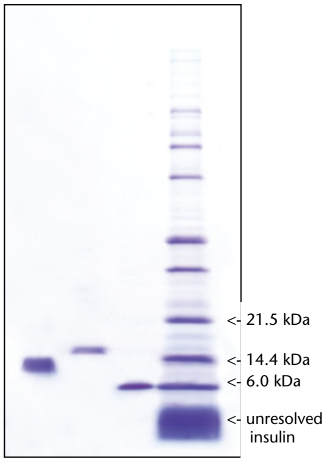
| | |
|---|---|
| Human Heregulinβ-1 | **ABTS CATALOG #** 900-K316 |

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Human Heregulinβ-1 | **ABTS CATALOG #** 900-M316 |

*SDS-PAGE gel analysis under non-reducing conditions for Human HCC-1 (Lane 1), HB-EGF (Lane 2), and, Heregulinβ-1 (Lane 3), and markers (Lane 4).*



# HGF *Hepatocyte Growth Factor*

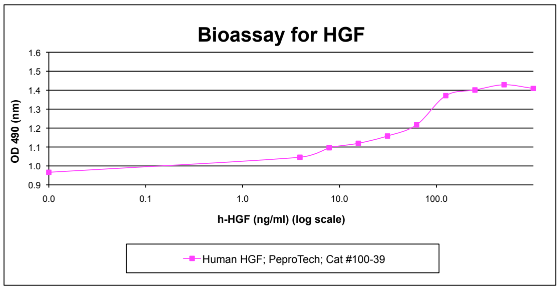
**Synonyms:** Scatter Factor (SF), Hepatopoietin (HPTA)

## Recombinant Proteins

| PRODUCT | | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|---|
| Human HGF | CARTAGENA | 100-39 | *Insect cells* | 80.0 kDa | 2µg | 10µg | 1mg |
| Murine HGF | CARTAGENA | 315-23 | *Insect cells* | 79.3 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

*Bioassay analysis of Human HGF (proliferation) using monkey 4MBr-5 cells.*




# HVEM-Fc

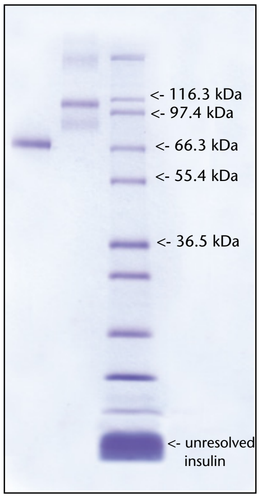
**Synonyms:** TNFSFR14, HVEM, ATAR, TR2

## Recombinant Proteins

| PRODUCT | | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|---|
| Human HVEM-Fc | CARTAGENA | 310-27 | *Insect cells* | 41.4 kDa | 20µg | 100µg | 1mg |

*Additional sizes available please inquire*

*SDS-PAGE gel analysis under non-reducing conditions for Human HGF(Lane 1), HVEM-Fc (Lane 2), and markers (Lane 3). Due to glycosylation HVEM-Fc migrates higher.*




# I-309 (CCL1)

**Synonyms:** CCL1, TCA-3

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human I-309 | 300-37 | *E.coli* | 8.5 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human I-309 | 500-P110 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human I-309 | 500-P110Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# ICAM-1 *Intercellular Adhesion Molecule-1*

**Synonyms:** Major group rhinovirus receptor, CD54 antigen

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human ICAM-1 | 150-05 | *CHO cells* | 49.5 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human ICAM-1 | 500-P287 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human ICAM-1 | 500-P287Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

*Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.*

| | |
|---|---|
| Human ICAM-1 | **ABTS CATALOG #** 900-K464 |

## Mini ELISA Development Kit

*Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.*

| | |
|---|---|
| Human ICAM-1 | **ABTS CATALOG #** 900-M464 |



# IFN-β *Interferon-beta*

**Synonyms:** Fibroblast Interferon, IFNB1, Type I Interferon

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IFN-β | 300-02BC | *CHO cells* | 20.0 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IFN-β | AF-300-02B | *E.coli* | 20.0 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human IFN-β | 500-P32B | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human IFN-β | 500-P32Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# IFN-γ *Interferon-gamma*

**Synonyms:** Immune Interferon, type II interferon, T-cell interferon, MAF

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IFN-γ | 300-02 | *E.coli* | 16.8 kDa | 20µg | 100µg | 1mg |
| Murine IFN-γ | 315-05 | *E.coli* | 15.6 kDa | 20µg | 100µg | 1mg |
| Rat IFN-γ | 400-20 | *E.coli* | 15.6 kDa | 20µg | 100µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IFN-γ | AF-300-02 | *E.coli* | 16.8 kDa | 20µg | 100µg | 1mg |
| Murine IFN-γ | AF-315-05 | *E.coli* | 15.6 kDa | 20µg | 100µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human IFN-γ | 500-P32 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human IFN-γ | 500-P32Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine IFN-γ | 500-P119 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Murine IFN-γ | 500-P119Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Rat IFN-γ | 500-P122 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Rat IFN-γ | 500-P122Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Rat IFN-γ | 500-P122G | *Goat* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Rat IFN-γ | 500-P122GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-human IFN-γ | 500-M90 | *Mouse* | E, WB, NA | 500µg |

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human IFN-γ | **ABTS CATALOG #** 900-K27 |
| Human IFN-γ | **TMB CATALOG #** 900-T27 |
| Murine IFN-γ | **ABTS CATALOG #** 900-K98 |
| Murine IFN-γ | **TMB CATALOG #** 900-T98 |
| Rat IFN-γ | **ABTS CATALOG #** 900-K109 |

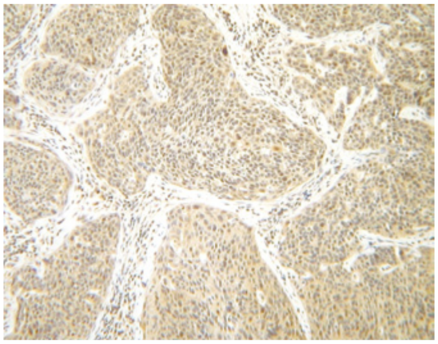
## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

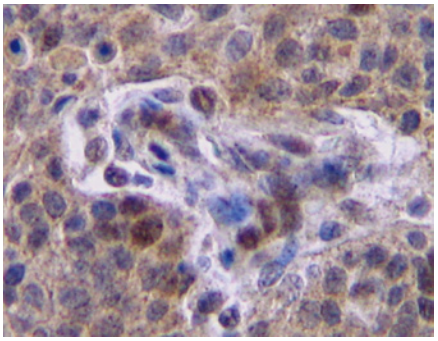
| | |
|---|---|
| Human IFN-γ | **ABTS CATALOG #** 900-M27 |
| Human IFN-γ | **TMB CATALOG #** 900-TM27 |
| Murine IFN-γ | **ABTS CATALOG #** 900-M98 |
| Murine IFN-γ | **TMB CATALOG #** 900-TM98 |

*continued on next page...*

# IFN-γ *continued...*



*Human cervical squamous cell carcinoma (FFPE) stained with Rabbit Anti-Human IFN-γ at 0.25 μg/mL.*
*Tissue samples were provided by the Cooperative Human Tissue Network, which is funded by the National Cancer Institute. Other investigators may have received specimens from the same subjects. Photograph provided by Patsy Ruegg for PeproTech.*



# IFN-λ1, -λ2 *Interferon-lambda 1, 2*

**Synonyms: IFN-λ1:** IL-29 (Human); **IFN-λ2:** IL-28A

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IFN-λ1 | 300-02L | *E.coli* | 19.8 kDa | 5μg | 20μg | 1mg |
| Human IFN-λ2 | 300-02K | *E.coli* | 19.6 kDa | 5μg | 20μg | 1mg |
| Murine IFN-λ2 | 250-33 | *E.coli* | 19.8 kDa | 5μg | 20μg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IFN-λ1 | AF-300-02L | *E.coli* | 19.8 kDa | 5μg | 20μg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human IFN-λ2 | 500-P247 | *Rabbit* | I, E, WB, NA | 50μg | 100μg | 1mg |
| Biot. Anti-Human IFN-λ2 | 500-P247Bt | *Rabbit* | E, WB, NA | 25μg | 50μg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# IFN-ω *Interferon-omega*

**Synonyms:** IFN alpha II-1, IFNW1

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IFN-ω | 300-02J | *E.coli* | 19.9 kDa | 20μg | 100μg | 5mg |

*Additional sizes available please inquire*

# IGF-I, IGF-I LR3 and IGF-II *Insulin-like Growth Factor I and II*

**Synonyms: IGF-I:** Somatamedin C, IGF-IA; **IGF-I LR3:** Long R3 IGF-I, Somatamedin C, IGF-IA
**IGF-II:** Somatamedin A



## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IGF-I | 100-11 | *E.coli* | 7.6 kDa | 100µg | 500µg | 1mg |
| Murine IGF-I | 250-19 | *E.coli* | 7.6 kDa | 10µg | 50µg | 1mg |
| Human IGF-I LR3 | 100-11R3 | *E.coli* | 9.1 kDa | 200µg | 1mg | |
| Human IGF-II | 100-12 | *E.coli* | 7.5 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IGF-I | AF-100-11 | *E.coli* | 7.6 kDa | 100µg | 500µg | 1mg |
| Human IGF-II | AF-100-12 | *E.coli* | 7.5 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human IGF-I | 500-P11 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human IGF-I | 500-P11bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine IGF-I | 500-P157G | *Goat* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Murine IGF-I | 500-P157GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Human IGF-II | 500-P12 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human IGF-II | 500-P12Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

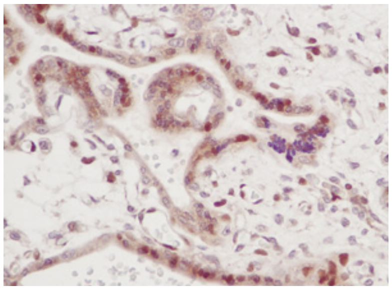
Murine IGF-I **ABTS CATALOG #** 900-K170

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells

Human IGF-I **ABTS CATALOG #** 900-M170

*Normal human placenta (FFPE) stained with Rabbit Anti-Human IGF-II at 5.0 µg/ml. Staining of epithelial cells and vessel lining cells. Photographed by PeproTech.*



# IGF-BPs *Insulin-like Growth Factor-Binding Proteins*

**Synonyms:** **IGF-BP1:** IBP-1, Placenta Protein 12 (PP12)
**IGF-BP2:** IBP-2
**IGF-BP3:** IBP-3, Growth-hormone-dependent binding protein
**IGF-BP4:** IBP-4, HT29-IGF-BP, colon cancer cell growth inhibitor
**IGF-BP5:** IBP-5
**IGF-BP6:** IBP-6
**IGF-BP7:** IBP-7, Mac25, IGF Binding Protein-related Protein 1 (IGFBP-rP1)

## Recombinant Proteins

| PRODUCT | | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|---|
| Human IGF-BP1 | | 350-10 | *E.coli* | 25.4 kDa | 5µg | 25µg | 1mg |
| Human IGF-BP2 | CARTAGENA | 350-06B | *Insect cells* | 31.5 kDa | 5µg | 20µg | 1mg |
| Human IGF-BP3 | | 100-08 | *E.coli* | 28.8 kDa | 5µg | 25µg | 1mg |
| Human IGF-BP4 | CARTAGENA | 350-05B | *Insect cells* | 25.7kDa | 5µg | 20µg | 1mg |
| Human IGF-BP5 | | 100-05 | *E.coli* | 28.6 kDa | 5µg | 25µg | 1mg |
| Human IGF-BP6 | CARTAGENA | 350-07B | *Insect cells* | 22.3 kDa | 5µg | 20µg | 1mg |
| Human IGF-BP7 | | 350-09 | *E.coli* | 26.4 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IGF-BP3 | AF-100-08 | *E.coli* | 28.8 kDa | 5µg | 25µg | 1mg |
| Human IGF-BP7 | AF-350-09 | *E.coli* | 26.4 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human IGF-BP1 | 500-P228 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human IGF-BP1 | 500-P228Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Human IGF-BP3 | 500-P230 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human IGF-BP3 | 500-P230Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Human IGF-BP5 | 500-P232 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human IGF-BP5 | 500-P232Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Human IGF-BP7 | 500-P234 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human IGF-BP7 | 500-P234Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

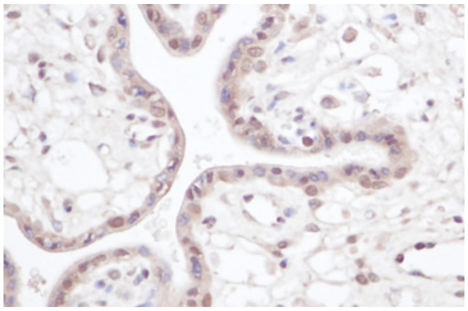
Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

Human IGF-BP1 **ABTS CATALOG #** 900-K315

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells

Human IGF-BP1 **ABTS CATALOG #** 900-M315



*Normal human placenta (FFPE) stained with rabbit anti-human IGF-BP3 at 2.5 µg/ml. Photograph by PeproTech.*

I

# IL-1$\alpha$ *Interleukin-1 alpha*

**Synonyms:** Hematopoietin-1, Lymphocyte-Activating Factor (LAF), Endogenous Pyrogen (EP), Leukocyte Endogenous Mediator (LEM), Mononuclear Cell Factor (MCF)

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-1α | 200-01A | *E.coli* | 18.0 kDa | 2µg | 10µg | 1mg |
| Murine IL-1α | 211-11A | *E.coli* | 17.9 kDa | 2µg | 10µg | 1mg |
| Rat IL-1α | 400-01A | *E.coli* | 17.7 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-1α | AF-200-01A | *E.coli* | 18.0 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human IL-1α | 500-P21A | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human IL-1α | 500-P21ABt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine IL-1α | 500-P51A | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Murine IL-1α | 500-P51ABt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Rat IL-1α | 500-P180G | *Goat* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Rat IL-1α | 500-P180GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

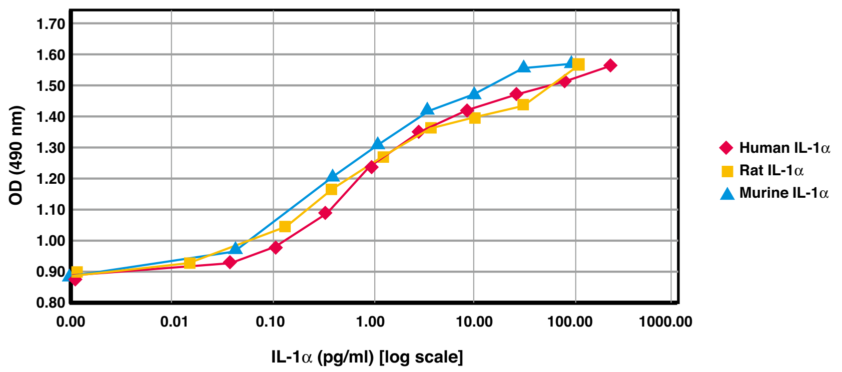
Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human IL-1α | **ABTS CATALOG #** 900-K11 |
| Murine IL-1α | **ABTS CATALOG #** 900-K82 |
| Rat IL-1α | **ABTS CATALOG #** 900-K204 |

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells

| | |
|---|---|
| Murine IL-1α | **ABTS CATALOG #** 900-M11 |




*Bioassay analysis of Human, Murine, and Rat IL-1α (proliferation) using mouse D10S cells.*

I

# IL-1β *Interleukin-1 beta*

**Synonyms:** Catabolin, Lymphocyte-Activating Factor (LAF), Endogenous Pyrogen (EP), Leukocyte Endogenous Mediator (LEM), Mononuclear Cell Factor (MCF)

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-1β | 200-01B | *E.coli* | 17.3 kDa | 2µg | 10µg | 1mg |
| Murine IL-1β | 211-11B | *E.coli* | 17.5 kDa | 2µg | 10µg | 1mg |
| Rat IL-1β | 400-01B | *E.coli* | 17.4 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-1β | AF-200-01B | *E.coli* | 17.3 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Murine IL-1β | 500-P51 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Murine IL-1β | 500-P51Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Rat IL-1β | 500-P80 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Rat IL-1β | 500-P80Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

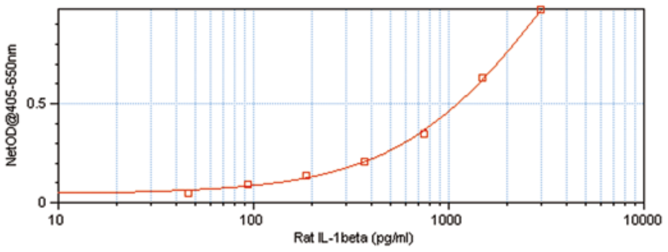
| | |
|---|---|
| Murine IL-1β | **ABTS CATALOG #** 900-K47 |
| Rat IL-1β | **ABTS CATALOG #** 900-K91 |

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells

| | |
|---|---|
| Murine IL-1β | **ABTS CATALOG #** 900-M47 |
| Rat IL-1β | **ABTS CATALOG #** 900-M91 |

*Standard curve using Rat IL-1β ELISA development kit.*




I

# IL-1RA *Interleukin-1 Receptor Antagonist*

**Synonyms:** ICIL-1RA, IRAP, IL-1RN

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-1RA | 200-01RA | *E.coli* | 17.2 kDa | 20µg | 100µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-1RA | AF-200-01RA | *E.coli* | 17.2 kDa | 20µg | 100µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human IL-1RA | 500-P209 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human IL-1RA | 500-P209Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

I

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

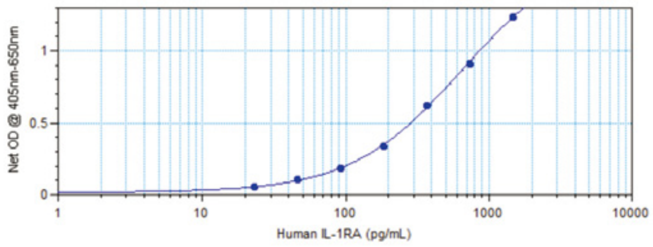
| | |
|---|---|
| Human IL-1RA | **ABTS CATALOG #** 900-K474 |

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Human IL-1RA | **ABTS CATALOG #** 900-M474 |

*Standard curve using Human IL-1RA ELISA Development Kit.*



# IL-2 *Interleukin-2*

**Synonyms:** T-Cell Growth Factor (TCGF), Aldesleukin

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-2 | 200-02 | *E.coli* | 15.5 kDa | 10µg | 50µg | 1mg |
| Murine IL-2 | 212-12 | *E.coli* | 17.2 kDa | 5µg | 20µg | 1mg |
| Rat IL-2 | 400-02 | *E.coli* | 15.3 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-2 | AF-200-02 | *E.coli* | 15.5 kDa | 10µg | 50µg | 1mg |
| Murine IL-2 | AF-212-12 | *E.coli* | 17.2 kDa | 5µg | 20µg | 1mg |
| Rat IL-2 | AF-400-02 | *E.coli* | 15.3 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human IL-2 | 500-P22 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human IL-2 | 500-P22Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Human IL-2 | 500-P22G | *Goat* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human IL-2 | 500-P22GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine IL-2 | 500-P111 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Murine IL-2 | 500-P111Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Rat IL-2 | 500-P274 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Rat IL-2 | 500-P274Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-Human IL-2 | 500-M02 | *Mouse* | I, E, WB, NA | 500µg |
| Anti-Murine IL-2 | 500-M127 | *Rat* | E, WB, NA | 500µg |
| Anti-Rat IL-2 | 500-M129 | *Mouse* | E, WB, NA | 500µg |

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human IL-2 | **ABTS CATALOG #** 900-K12 |
| Human IL-2 | **TMB CATALOG #** 900-T12 |
| Murine IL-2 | **ABTS CATALOG #** 900-K108 |
| Murine IL-2 | **TMB CATALOG #** 900-T108 |
| Rat IL-2 | **ABTS CATALOG #** 900-K205 |

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Human IL-2 | **ABTS CATALOG #** 900-M12 |
| Human IL-2 | **TMB CATALOG #** 900-TM12 |
| Murine IL-2 | **ABTS CATALOG #** 900-M108 |
| Murine IL-2 | **TMB CATALOG #** 900-TM108 |
| Rat IL-2 | **ABTS CATALOG #** 900-M205 |

# sIL-2 Receptor α *soluble Interleukin-2 Receptor alpha*

**Synonyms:** TAC-antigen, CD25 antigen

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human sIL-2 Receptor α CARTAGENA | 200-02R | *Insect cells* | 24.8 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-Human sIL-2Rα | 500-M02R | *Mouse* | I, E, WB, NA | 500µg |

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# IL-3 *Interleukin-3*

**Synonyms:** Mast Cell Growth Factor (MCGF), Multipotential-Colony Stimulating Factor (Multi-CSF), Hematopoietic Cell Growth Factor (HCGF), P-cell stimulation factor

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-3 | 200-03 | *E.coli* | 15.0 kDa | 2µg | 10µg | 1mg |
| Murine IL-3 | 213-13 | *E.coli* | 15.1 kDa | 2µg | 10µg | 1mg |
| Rat IL-3β | 400-03 | *E.coli* | 16.3 kDa | 5µg | 20µg | 1mg |

** See page 6 for available Cytokine Packages.*

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-3 | AF-200-03 | *E.coli* | 15.0 kDa | 2µg | 10µg | 1mg |
| Murine IL-3 | AF-213-13 | *E.coli* | 15.1 kDa | 2µg | 10µg | 1mg |

** See page 6 for available Cytokine Packages.*

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human IL-3 | 500-P23 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human IL-3 | 500-P23Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine IL-3 | 500-P53 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Murine IL-3 | 500-P53Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Rat IL-3β | 500-P177G | *Goat* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Rat IL-3β | 500-P177GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-Human IL-3 | 500-M03 | *Mouse* | E, WB, N | 500µg |

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human IL-3 | **ABTS CATALOG #** 900-K13 |
| Murine IL-3 | **ABTS CATALOG #** 900-K48 |

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Murine IL-3 | **ABTS CATALOG #** 900-M48 |

# IL-4 *Interleukin-4*

**Synonyms:** BCGF, BCDF, B-cell Stimulating Factor (BSF-1)

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-4 | 200-04 | *E.coli* | 15.1 kDa | 5µg | 20µg | 1mg |
| Murine IL-4 | 214-14 | *E.coli* | 13.5 kDa | 5µg | 20µg | 1mg |
| Rat IL-4 | 400-04 | *E.coli* | 14.0 kDa | 5µg | 20µg | 1mg |

* *See page 6 for available Cytokine Packages.*

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-4 | AF-200-04 | *E.coli* | 15.1 kDa | 5µg | 20µg | 1mg |
| Murine IL-4 | AF-214-14 | *E.coli* | 13.5 kDa | 5µg | 20µg | 1mg |

* *See page 6 for available Cytokine Packages.*

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human IL-4 | 500-P24 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human IL-4 | 500-P24Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine IL-4 | 500-P54 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Murine IL-4 | 500-P54Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Rat IL-4 | 500-P94 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Rat IL-4 | 500-P94Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-human IL-4 | 500-M04 | *Mouse* | E, WB, NA | 500µg |

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human IL-4 | **ABTS CATALOG #** 900-K14 |
| Human IL-4 | **TMB CATALOG #** 900-T14 |
| Murine IL-4 | **ABTS CATALOG #** 900-K49 |
| Murine IL-4 | **TMB CATALOG #** 900-T49 |

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Human IL-4 | **ABTS CATALOG #** 900-M14 |
| Human IL-4 | **TMB CATALOG #** 900-TM14 |
| Murine IL-4 | **ABTS CATALOG #** 900-M49 |
| Murine IL-4 | **TMB CATALOG #** 900-TM49 |

# sIL-4 Receptor α *soluble Interleukin-4 Receptor alpha*

**Synonyms:** CD124

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human sIL-4 Receptor α | 200-04R | *HEK293 cells* | 23.9 kDa | 3µg | 15µg | 1mg |

*Additional sizes available please inquire*

# IL-5 *Interleukin-5*

**Synonyms:** EDF, BCDFII, TRF

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-5 | 200-05 | *E.coli* | 26.5 kDa | 2µg | 10µg | 1mg |
| Murine IL-5 | 215-15 | *E.coli* | 26.2 kDa | 5µg | 25µg | 1mg |
| Rat IL-5 | 400-05 | *E.coli* | 26.0 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human IL-5 | 500-P25 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human IL-5 | 500-P25Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine IL-5 | 500-P55 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Murine IL-5 | 500-P55Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human IL-5 | **ABTS CATALOG #** 900-K15 |
| Murine IL-5 | **ABTS CATALOG #** 900-K406 |

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Human IL-5 | **ABTS CATALOG #** 900-M15 |
| Murine IL-5 | **ABTS CATALOG #** 900-M406 |

# IL-6 *Interleukin-6*

**Synonyms:** 26 kDa protein, IFN-β2, B-Cell Differentiation Factor (BCDF), BSF-2, HPGF, HSF, MGI-2

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-6 | 200-06 | *E.coli* | 20.9 kDa | 5µg | 20µg | 1mg |
| Murine IL-6 | 216-16 | *E.coli* | 21.7 kDa | 2µg | 10µg | 1mg |
| Rat IL-6 | 400-06 | *E.coli* | 21.7 kDa | 2µg | 10µg | 1mg |

** See page 6 for available Cytokine Packages.*
*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-6 | AF-200-06 | *E.coli* | 20.9 kDa | 5µg | 20µg | 1mg |
| Murine IL-6 | AF-216-16 | *E.coli* | 21.7 kDa | 2µg | 10µg | 1mg |

** See page 6 for available Cytokine Packages.*
*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human IL-6 | 500-P26 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human IL-6 | 500-P26Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Human IL-6 | 500-P26G | *Goat* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human IL-6 | 500-P26GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine IL-6 | 500-P56 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Murine IL-6 | 500-P56Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Rat IL-6 | 500-P73 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Rat IL-6 | 500-P73Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Rat IL-6 | 500-P73G | *Goat* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Rat IL-6 | 500-P73GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated
**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-Human IL-6 | 500-M06 | *Mouse* | I, E, WB, NA | 500µg |

Biot. = Biotinylated
**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

*IL-6 continued on next page...*

I

# IL-6 *continued...*

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

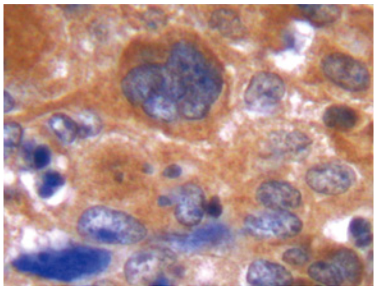
| | |
|---|---|
| Human IL-6 | **ABTS CATALOG #** 900-K16 |
| Human IL-6 | **TMB CATALOG #** 900-T16 |
| Murine IL-6 | **ABTS CATALOG #** 900-K50 |
| Murine IL-6 | **TMB CATALOG #** 900-T50 |
| Rat IL-6 | **ABTS CATALOG #** 900-K86 |

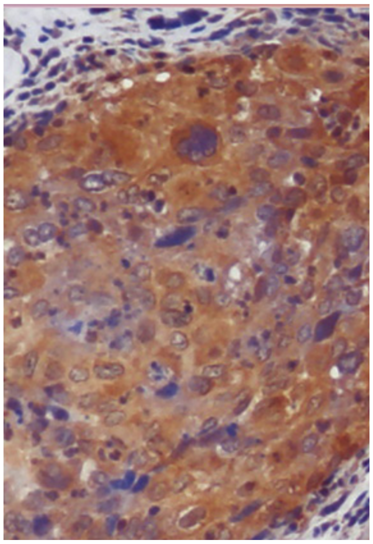
## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Human IL-6 | **ABTS CATALOG #** 900-M16 |
| Human IL-6 | **TMB CATALOG #** 900-TM16 |
| Murine IL-6 | **ABTS CATALOG #** 900-M50 |
| Murine IL-6 | **TMB CATALOG #** 900-TM50 |
| Rat IL-6 | **ABTS CATALOG #** 900-M86 |

I





*Human cervical squamous cell carcinoma (FFPE) stained with Rabbit Anti-Human IL-6 at 0.5 µg/ml. Staining of tumor cells and extracellular expression. Tissues samples were provided by the Cooperative Human Tissue Network, which is funded by the NCI. Other investigators may have received specimens from the same subjects. Photographs provided by Patsy Ruegg for PeproTech.*

# sIL-6 Receptor α *soluble Interleukin-6 Receptor alpha*

**Synonyms:** B-cell stimulatory factor-2 receptor, CD126

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human sIL-6 Receptor α | 200-06R | *HEK293 cells* | 37.6 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*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# IL-7 *Interleukin-7*

**Synonyms:** Lymphopoietin 1 (LP-1), Pre-B-cell factor

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-7 | 200-07 | *E.coli* | 17.4 kDa | 2µg | 10µg | 1mg |
| Murine IL-7 | 217-17 | *E.coli* | 15.0 kDa | 2µg | 10µg | 1mg |
| Rat IL-7 | 400-07 | *E.coli* | 15.0 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-7 | AF-200-07 | *E.coli* | 17.4 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human IL-7 | 500-P27 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human IL-7 | 500-P27Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine IL-7 | 500-P57 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Murine IL-7 | 500-P57Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Rat IL-7 | 500-P310 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biotinylated Anti-Rat IL-7 | 500-P310Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-human IL-7 | 500-M07 | *Mouse* | E, WB, NA | 500µg |

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP Conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human IL-7 | **ABTS CATALOG #** 900-K17 |

I

# IL-8 (CXCL8) *Interleukin-8*

**Synonyms:** CXCL8, Monocyte-Derived Neutrophil Chemotactic Factor (MDNCF), Neutrophil Activating Factor (NAF), NAP-1

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-8 (72 a.a.) | 200-08M | *E.coli* | 8.4 kDa | 5µg | 25µg | 1mg |
| Human IL-8 (77 a.a.) | 200-08 | *E.coli* | 8.9 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-8 (72 a.a.) | AF-200-08M | *E.coli* | 8.4 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

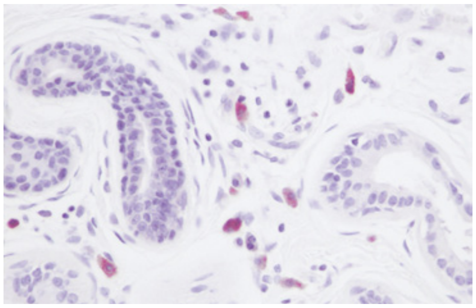
## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human IL-8 | 500-P28 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human IL-8 | 500-P28Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

*IL-8 continued on next page...*

# IL-8 *continued...*



*Normal human skin (FFPE) stained with rabbit anti-human IL-8 at 0.25 µg/ml. Photographed by PeproTech.*



## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-Human IL-8 | 500-M08 | *Mouse* | E, WB, NA | 500µg |

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human IL-8 | **ABTS CATALOG #** 900-K18 |
| Human IL-8 | **TMB CATALOG #** 900-T18 |

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Human IL-8 | **ABTS CATALOG #** 900-M18 |
| Human IL-8 | **TMB CATALOG #** 900-TM18 |

# IL-9 *Interleukin-9*

**Synonyms:** p40 cytokine, T-cell growth factor p40

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-9 | 200-09 | *E.coli* | 14.0 kDa | 2µg | 10µg | 1mg |
| Murine IL-9 | 219-19 | *E.coli* | 14.3 kDa | 2µg | 10µg | 1mg |
| Rat IL-9 | 400-18 | *E.coli* | 14.3 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-9 | AF-200-09 | *E.coli* | 14.0 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human IL-9 | 500-P29 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human IL-9 | 500-P29Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine IL-9 | 500-P59 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Murine IL-9 | 500-P59Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human IL-9 | **ABTS CATALOG #** 900-K20 |



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# IL-10 *Interleukin-10*

**Synonyms:** B-TCGF, CSIF, TGIF

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-10 | 200-10 | *E.coli* | 18.6 kDa | 2µg | 10µg | 1mg |
| Murine IL-10 | 210-10 | *E.coli* | 18.7 kDa | 2µg | 10µg | 1mg |
| Rat IL-10 | 400-19 | *E.coli* | 18.7 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-10 | AF-200-10 | *E.coli* | 18.6 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human IL-10 | 500-P20 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human IL-10 | 500-P20Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine IL-10 | 500-P60 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Murine IL-10 | 500-P60Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Rat IL-10 | 500-P139 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Rat IL-10 | 500-P139Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-Human IL-10 | 500-M86 | *Mouse* | I, E, WB, NA | 500µg |
| Anti-Murine IL-10 | 500-M128 | *Rat* | E, WB, N | 500µg |
| Anti-Rat IL-10 | 500-M130 | *Mouse* | E, WB, NA | 500µg |

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human IL-10 | **ABTS CATALOG #** 900-K21 |
| Murine IL-10 | **ABTS CATALOG #** 900-K53 |

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Human IL-10 | **ABTS CATALOG #** 900-M21 |
| Murine IL-10 | **ABTS CATALOG #** 900-M53 |

I

# IL-11 *Interleukin-11*

**Synonyms:** Adipogenesis Inhibitory Factor (AGIF)

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-11 | 200-11 | *E.coli* | 19.3 kDa | 2µg | 10µg | 1mg |
| Murine IL-11 | 220-11 | *E.coli* | 19.1 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-11 | AF-200-11 | *E.coli* | 19.3 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human IL-11 | 500-P01 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human IL-11 | 500-P01Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

I

## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-Human IL-11 | 500-M11 | *Mouse* | I, E, WB, NA | 500µg |

## ELISA Development Kit

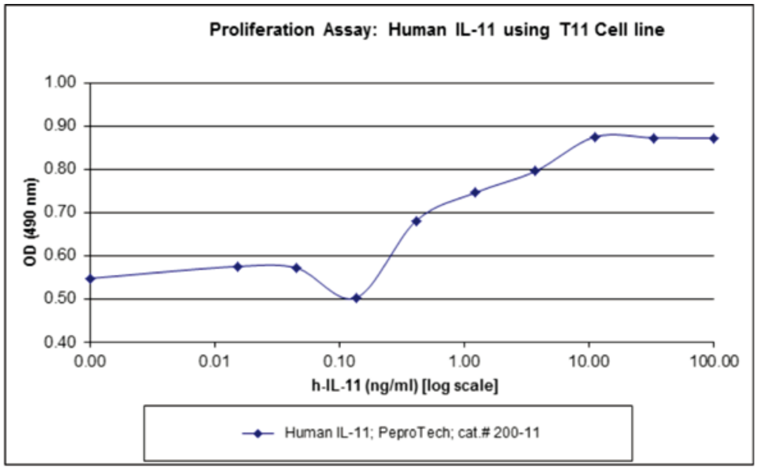
Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human IL-11 | **ABTS CATALOG #** 900-K22 |

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Human IL-11 | **ABTS CATALOG #** 900-M22 |




*Bioassay analysis of Murine IL-11 (proliferation) using T11 cells.*

# IL-12 *Interleukin-12*

**Synonyms:** NKSF, CTL Maturation Factor (TcMF), Cytotoxic Lymphocyte Maturation Factor (CLMF), TSF

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-12 | 200-12 | *CHO cells* | 75.0 kDa | 2µg | 10µg | 1mg |
| Murine IL-12 | 210-12 | *CHO cells* | 75.0 kDa | 2µg | 10µg | 1mg |
| Human IL-12 p40 | 200-12p40 | *CHO cells* | 40.0 kDa | 2µg | 10µg | 1mg |
| Human IL-12 p80 CARTAGENA | 200-12p80H | *Insect cells* | 80.0 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human IL-12 | 500-P154G | *Goat* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human IL-12 | 500-P154GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine IL-12 | 500-P155G | *Goat* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Murine IL-12 | 500-P155GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

I

## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-Human IL-12 | 500-M12 | *Mouse* | I, E, WB, NA | 500µg |
| Anti-Murine IL-12 | 500-M59 | *Rat* | E, WB, NA | 500µg |

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

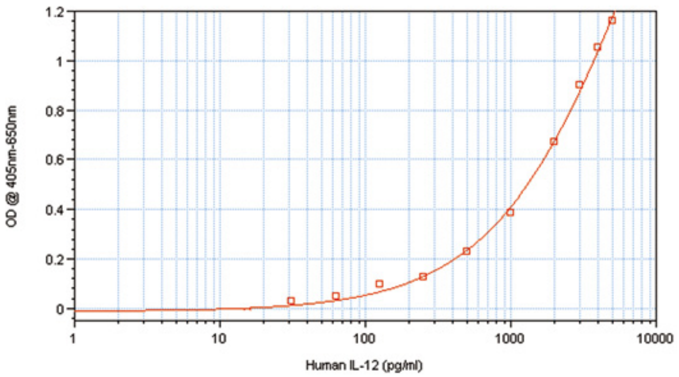
| | |
|---|---|
| Human IL-12 | **ABTS CATALOG #** 900-K96 |
| Human IL-12 | **TMB CATALOG #** 900-T96 |
| Murine IL-12 | **ABTS CATALOG #** 900-K97 |
| Murine IL-12 | **TMB CATALOG #** 900-T97 |

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Human IL-12 | **ABTS CATALOG #** 900-M96 |
| Human IL-12 | **TMB CATALOG #** 900-TM96 |
| Murine IL-12 | **ABTS CATALOG #** 900-M97 |
| Murine IL-12 | **TMB CATALOG #** 900-TM97 |

*Standard curve using Human IL-12 ABTS ELISA Development Kit.*



# IL-13 *Interleukin-13*

**Synonyms:** P600 (Murine), NC30 (Human)

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-13 | 200-13 | *E.coli* | 12.6 kDa | 2µg | 10µg | 1mg |
| Human IL-13 Variant | 200-13A | *E.coli* | 12.6 kDa | 2µg | 10µg | 1mg |
| Murine IL-13 | 210-13 | *E.coli* | 12.3 kDa | 2µg | 10µg | 1mg |
| Rat IL-13 (109 a.a.) | 400-16 | *E.coli* | 11.9 kDa | 2µg | 10µg | 1mg |
| Rat IL-13 (113 a.a.) | 400-16L | *E.coli* | 12.3 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-13 | AF-200-13 | *E.coli* | 12.6 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

I

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human IL-13 | 500-P13 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human IL-13 | 500-P13Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine IL-13 | 500-P178 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Murine IL-13 | 500-P178Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human IL-13 | **ABTS CATALOG #** 900-K23 |
| Murine IL-13 | **ABTS CATALOG #** 900-K207 |

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Murine IL-13 | **ABTS CATALOG #** 900-M207 |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# IL-15 *Interleukin-15*

**Synonyms:** IL-T

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-15 | 200-15 | *E.coli* | 12.9 kDa | 2µg | 10µg | 1mg |
| Murine IL-15 | 210-15 | *E.coli* | 13.3 kDa | 2µg | 10µg | 1mg |
| Rat IL-15 | 400-24 | *E.coli* | 13.5 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-15 | AF-200-15 | *E.coli* | 12.9 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human IL-15 | 500-P15 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human IL-15 | 500-P15Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine IL-15 | 500-P173 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Murine IL-15 | 500-P173Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-Human IL-15 | 500-M15 | *Mouse* | E, WB, NA | 500µg |

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Murine IL-15 | **ABTS CATALOG #** 900-K188 |

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Murine IL-15 | **ABTS CATALOG #** 900-M188 |

I

# IL-16 *Interleukin-16*

**Synonyms:** LCF (Lymphocyte Chemoattractant Factor)

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-16 (121 a.a.) | 200-16A | *E.coli* | 12.4 kDa | 2µg | 10µg | 1mg |
| Human IL-16 (129 a.a.) | 200-16 | *E.coli* | 13.3 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-16 (121 a.a.) | AF-200-16A | *E.coli* | 12.4 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human IL-16 | 500-P06 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human IL-16 | 500-P06Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated  **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

I

# IL-17/IL-17A *Interleukin-17A*

**Synonyms:** CTLA-8

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-17/IL-17A | 200-17 | *E.coli* | 31.3 kDa | 5µg | 25µg | 1mg |
| Murine IL-17/IL-17A | 210-17 | *E.coli* | 30.0 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Sie A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-17/IL-17A | AF-200-17 | *E.coli* | 31.3 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human IL-17A | 500-P07 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human IL-17A | 500-P07Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Human IL-17A | 500-P07G | *Goat* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human IL-17A | 500-P07GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine IL-17A | 500-P265 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Murine IL-17A | 500-P265Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated  **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

*IL-17A/IL-17 continued on next page...*

# IL-17/IL-17A *continued...*

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human IL-17/IL-17A | **ABTS CATALOG #** 900-K84 |
| Murine IL-17/IL-17A | **ABTS CATALOG #** 900-K392 |

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Human IL-17A | **ABTS CATALOG #** 900-M84 |
| Murine IL-17A | **ABTS CATALOG #** 900-M392 |



# IL-17B *Interleukin-17B*

**Synonyms:** IL-20, NIRF, Cytokine ZCYTO 7

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-17B | 200-28 | *E.coli* | 36.6 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human IL-17B | 500-P248 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human IL-17B | 500-P248Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated    **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# IL-17D *Interleukin-17D*

**Synonyms:** IL-27

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-17D | 200-27 | *E.coli* | 40.5 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human IL-17D | 500-P88 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human IL-17D | 500-P88Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated    **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# IL-17E *Interleukin-17E*

**Synonyms:** IL-25

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-17E | 200-24 | *E.coli* | 33.8 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-17E | AF-200-24 | *E.coli* | 33.8 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human IL-17E | 500-P89 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human IL-17E | 500-P89Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human IL-17E | **ABTS CATALOG #** 900-K234 |
| Human IL-17E | **TMB CATALOG #** 900-T234 |

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Human IL-17E | **ABTS CATALOG #** 900-M234 |
| Human IL-17E | **TMB CATALOG #** 900-TM234 |

# IL-17F *Interleukin-17F*

**Synonyms:** none

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-17F | 200-25 | *E.coli* | 30.1 kDa | 5µg | 25µg | 1mg |
| Murine IL-17F | 210-17F | *E.coli* | 30.0 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human IL-17F | 500-P90 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human IL-17F | 500-P90Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human IL-17F | **ABTS CATALOG #** 900-K277 |

I


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# IL-18BP *Interleukin-18 Binding Protein*

**Synonyms:** none

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Murine IL-18BP | 500-P153G | *Goat* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Murine IL-18BP | 500-P153GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# IL-19 *Interleukin-19*

**Synonyms:** Melanoma differentiation-associated protein-like protein

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-19 | 200-19 | *E.coli* | 35.8 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human IL-19 | 500-P189 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human IL-19 | 500-P189Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# IL-20 *Interleukin-20*

**Synonyms:** Cytokine ZCYTO10

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-20 | 200-20 | *E.coli* | 35.2 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

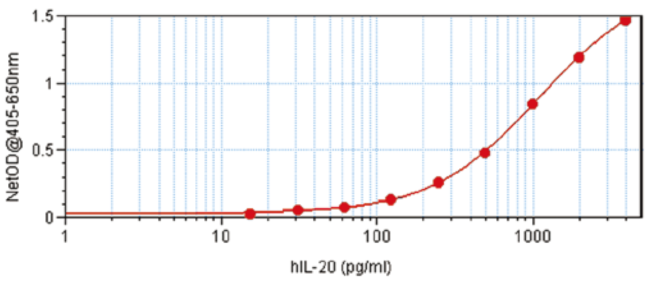
| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human IL-20 | 500-P190G | *Goat* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human IL-20 | 500-P190GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human IL-20 | **ABTS CATALOG #** 900-K224 |




*Standard curve using Human IL-20 ABTS ELISA Development Kit.*

# IL-21 *Interleukin-21*

**Synonyms:** Za11

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-21 | 200-21 | *E.coli* | 15.4 kDa | 2µg | 10µg | 1mg |
| Murine IL-21 | 210-21 | *E.coli* | 15.0 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-21 | AF-200-21 | *E.coli* | 15.4 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human IL-21 | 500-P191 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human IL-21 | 500-P191Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine IL-21 | 500-P278 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Murine IL-21 | 500-P278Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human IL-21 | **ABTS CATALOG #** 900-K226 |
| Murine IL-21 | **ABTS CATALOG #** 900-K368 |

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Murine IL-21 | **ABTS CATALOG #** 900-M368 |

# IL-22 *Interleukin-22*

**Synonyms:** IL-TIF, Cytokine ZCYTO18

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-22 | 200-22 | *E.coli* | 33.6 kDa | 2µg | 10µg | 1mg |
| Murine IL-22 | 210-22 | *E.coli* | 33.4 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-22 | AF-200-22 | *E.coli* | 33.6 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human IL-22 | 500-P211 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human IL-22 | 500-P211Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine IL-22 | 500-P223 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Murine IL-22 | 500-P223Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human IL-22 | **ABTS CATALOG #** 900-K246 |
| Murine IL-22 | **ABTS CATALOG #** 900-K257 |

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Human IL-22 | **ABTS CATALOG #** 900-M246 |
| Murine IL-22 | **ABTS CATALOG #** 900-M257 |

# IL-23 *Interleukin-23*

**Synonyms:** none

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-23 CARTAGENA | 200-23 | *Insect cells* | 53.5 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

# IL-24 *Interleukin-24*

**Synonyms:** MDA-7 (Melanoma Differentiation-Associated gene 7 protein)

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-24 | 200-35 | *CHO cells* | 18.9 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

# IL-27 *Interleukin-27*

**Synonyms:** Interleukin-27 subunit alpha, IL-27-A, Interleukin-27 subunit beta, IL-27B, Epstein-Barr virus-induced gene 3 protein, EBV-induced gene 3 protein, EBI3, p28, Interleukin-30, IL-30

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-27 | 200-38 | *HEK293 cells* | 47.8 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

I

# IL-31 *Interleukin-31*

**Synonyms:** none

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-31 | 200-31 | *E.coli* | 15.8 kDa | 2µg | 10µg | 1mg |
| Murine IL-31 | 210-31 | *E.coli* | 15.8 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human IL-31 | 500-P249 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human IL-31 | 500-P249Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human IL-31 | **ABTS CATALOG #** 900-K347 |

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Human IL-31 | **ABTS CATALOG #** 900-M347 |

# IL-33 *Interleukin-33*

**Synonyms:** NF-HEV, IL-1 F11

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-33 | 200-33 | *E.coli* | 17.9 kDa | 2µg | 10µg | 1mg |
| Murine IL-33 | 210-33 | *E.coli* | 17.5 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-33 | AF-200-33 | *E.coli* | 17.9 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human IL-33 | 500-P261 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human IL-33 | 500-P261Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human IL-33 | **ABTS CATALOG #** 900-K398 |

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Human IL-33 | **ABTS CATALOG #** 900-M398 |

# IL-34 *Interleukin-34*

**Synonyms:** C16orf77

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-34 | 200-34 | *HEK293 cells* | 52.5 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

# IL-35 *Interleukin-35*

**Synonyms:** none

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B |
|---|---|---|---|---|---|
| Human IL-35 | 200-37 | *HEK293 cells* | 45.8 kDa | 2µg | 10µg |

*Additional sizes available please inquire*

# IL-36$\beta$ (IL-1F8) *Interleukin-36 beta*

**Synonyms:** IL-1H2, IL-1 eta

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-36$\beta$ (IL-1F8) | 200-36B | *E.coli* | 17.3 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

# IL-36$\gamma$ (IL-1F9) *Interleukin-36 gamma*

**Synonyms:** IL-1F, IL-lε (epsilon), IL-1H1

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-36$\gamma$ (IL-1F9) | 200-36G | *E.coli* | 17.0 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

I

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-36$\gamma$ (IL-1F9) | AF-200-36G | *E.coli* | 17.0 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

# IL-36RA *Interleukin-36 Receptor Antagonist*

**Synonyms:** FIL1 delta, IL-1F5, IL-1HY1, IL-1L1, IL-1RP3, IL-1ra Homolog 1, IL-1 delta

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IL-36RA | 200-36RA | *E.coli* | 17.0 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

# INSL5/INSL7 Hybrid

**Synonyms:** none

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human INSL5/INSL7 Hybrid | 130-05 | *E.coli* | 5.2 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

# IP-10 (CXCL10) *Gamma Interferon Inducible Protein-10*

**Synonyms:** Crg-2

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human IP-10 (CXCL10) | 300-12 | *E.coli* | 8.6 kDa | 5µg | 25µg | 1mg |
| Murine IP-10 (CXCL10) | 250-16 | *E.coli* | 8.7 kDa | 5µg | 25µg | 1mg |
| Rat IP-10 (CXCL10) | 400-33 | *E.coli* | 8.6 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human IP-10 | 500-P93 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human IP-10 | 500-P93Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine IP-10 | 500-P129 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Murine IP-10 | 500-P129Bt | *Rabbit* | I, E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Rat IP-10 | 500-P290 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Rat IP-10 | 500-P290Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-Human IP-10 | 500-M60 | *Mouse* | E, WB, NA | 500µg |

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human IP-10 | **ABTS CATALOG #** 900-K39 |
| Murine IP-10 | **ABTS CATALOG #** 900-K153 |
| Rat IP-10 | **ABTS CATALOG #** 900-K449 |

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Human IP-10 | **ABTS CATALOG #** 900-M39 |
| Murine IP-10 | **ABTS CATALOG #** 900-M153 |
| Rat IP-10 | **ABTS CATALOG #** 900-M449 |

# Irisin

**Synonyms:** FNDC5, Fibronectin type III domain-containing protein 5, Fibronectin type III repeat-containing protein 2, FRCP2

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Irisin | 100-65 | *CHO cells* | 25.2 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

# I-TAC (CXCL11) *Interferon Inducible T-cell α Chemokine*

**Synonyms:** B-R1

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human I-TAC (CXCL11) | 300-46 | *E.coli* | 8.3 kDa | 5µg | 20µg | 1mg |
| Murine I-TAC (CXCL11) | 250-29 | *E.coli* | 9.0 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human I-TAC | 500-P132 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human I-TAC | 500-P132Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP Conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human I-TAC | **ABTS CATALOG #** 900-K151 |

# Kex-2

**Synonyms:** Endoproteinase Lys/Arg-Arg

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Yeast Kex-2 CARTAGENA | 450-45 | *Insect cells* | 60.4 kDa | 50µg | 250µg | 1mg |

*Additional sizes available please inquire*

# KGF (FGF-7) *Keratinocyte Growth Factor*

**Synonyms:** Fibroblast Growth Factor-7 (FGF-7), HBGF-7

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human KGF (FGF-7) | 100-19 | *E.coli* | 18.9 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human KGF (FGF-7) | AF-100-19 | *E.coli* | 18.9 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human KGF | 500-P19 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human KGF | 500-P19Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# KLF4-TAT *Kruppel-Like Factor-4*

**Synonyms:** EZF, GKLF

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human KLF4-TAT | 110-08 | *HEK293 cells* | 51.7 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

# Klotho

**Synonyms:** αKlotho, KLA

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Klotho | 100-53 | *CHO cells* | 58.6 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human Klotho | 500-P296 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human Klotho | 500-P296Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested



# LAG-1 (CCL4L1) *Lymphocyte Activation Gene-1*

**Synonyms:** ACT-2, T-cell Activation-2, HC21

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human LAG-1 (CCL4L1) | 300-58 | *E.coli* | 7.7 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

# LD78β (CCL3L1)

**Synonyms:** None

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human LD78β (CCL3L1) | 300-56 | *E.coli* | 7.7 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human LD78β | 500-P187G | *Goat* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human LD78β | 500-P187GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# LEC (CCL16) *Liver-Expressed Chemokine*

**Synonyms:** NCC-4, HCC-4, LMC, LCC-1, MTN-1, IL-10-inducible chemokine

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human LEC (CCL16) | 300-44 | *E.coli* | 11.2 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human LEC | 500-P125G | *Goat* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human LEC | 500-P125GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-Human LEC | 500-M43 | *Mouse* | E, WB, N | 500µg |

L

# Leptin

**Synonyms:** Obesity protein (OB)

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Leptin | 300-27 | *E.coli* | 16.0 kDa | 200µg | 1mg | 5mg |
| Murine Leptin | 450-31 | *E.coli* | 16.2 kDa | 200µg | 1mg | 5mg |
| Rat Leptin | 400-21 | *E.coli* | 16.2 kDa | 200µg | 1mg | 5mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human Leptin | 500-P86 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human Leptin | 500-P86Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine Leptin | 500-P68 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Murine Leptin | 500-P68Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Rat Leptin | 500-P185G | *Goat* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Rat Leptin | 500-P185GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-Human Leptin | 500-M27 | *Mouse* | E, WB, NA | 500µg |

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human Leptin | **ABTS CATALOG #** 900-K90 |
| Murine Leptin | **ABTS CATALOG #** 900-K76 |

*See next page for IHC images of anti-murine Leptin...*



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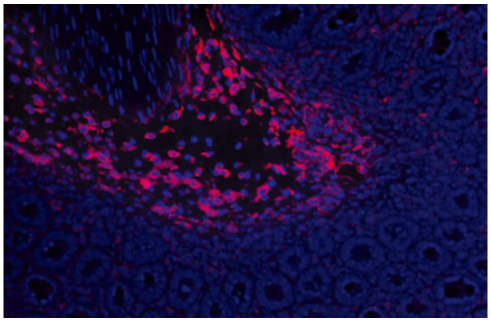
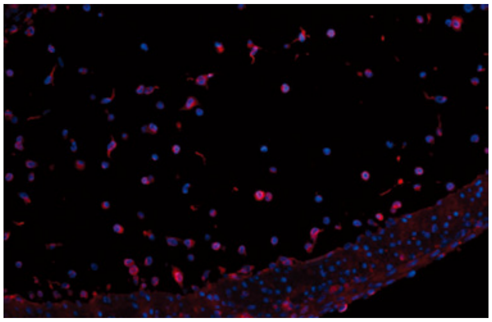
# Leptin *continued…*

*Murine tissue 4% PFA, paraffin-embedded sections of a Trichuris muris infected mouse stained with Rabbit Anti-Murine Leptin at 0.20 µg/ml. Information and photographs are courtesy of Katherine Guild and David Artis, University of Pennsylvania.*

# LIF *Leukemia Inhibitory Factor*

**Synonyms:** Differentiation-stimulating factor, D factor, Melanoma-derived LPL inhibitor (MLPLI)

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human LIF | 300-05 | *E.coli* | 19.6 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human LIF | AF-300-05 | *E.coli* | 19.6 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human LIF | 500-P39 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human LIF | 500-P39Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated
**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# LIGHT

**Synonyms:** TNFSF14, HVEM-L

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human LIGHT CARTAGENA | 310-09B | *Insect cells* | 19.3 kDa | 3µg | 15µg | |
| Murine LIGHT | 315-12 | *E.coli* | 20.1 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human LIGHT | 500-P179 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human LIGHT | 500-P179Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated
**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# Lin28-TAT

**Synonyms:** CSDD1, LIN28A, ZCCHC1

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Lin28-TAT | 110-06 | *E.coli* | 24.4 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

# LIX (CXCL6) *(See GCP-2)*

**Synonyms:** ENA-78 (human)

# Lungkine (CXCL15)

**Synonyms:** None

L-M

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Murine Lungkine (CXCL15) | 250-37 | *E.coli* | 16.3 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

# Lymphotactin (XCL1)

**Synonyms:** SCM-1a, ATAC

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Lymphotactin (XCL1) | 300-20 | *E.coli* | 10.0 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human Lymphotactin | 500-P40 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human Lymphotactin | 500-P40Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# MANF *Mesencephalic Astrocyte-derived Neurotrophic Factor*

**Synonyms:** ARMET, Arginine-Rich Protein (ARP)

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human MANF | 450-06 | *E.coli* | 18.1 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*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# Maspin

**Synonyms:** SerpinB5, Protease inhibitor 5

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Maspin | 130-12 | *E.coli* | 42.1 kDa | 5µg | 20µg | 1mg |

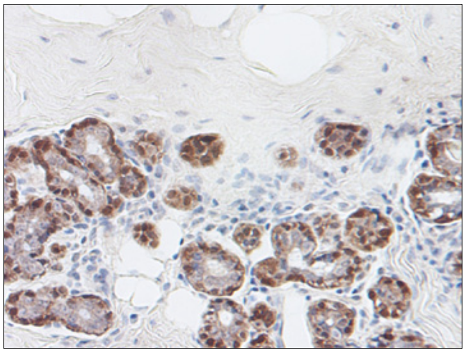
*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human Maspin | 500-P270 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human Maspin | 500-P270Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested



*Anti-Human Maspin (Catalog #500-P270)*
*Human breast lobular carcinoma in situ (FFPE) stained with Rabbit Anti-Human Maspin at 7.8 ng/mL. Staining of myoepithelial cells.*
*Tissue samples were provided by the Cooperative Human Tissue Network, which is funded by the National Cancer Institute. Other investigators may have received specimens from the same subjects.*



# M-CSF *Macrophage Colony Stimulating Factor*

**Synonyms:** CSF-1, MGI-IM

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human M-CSF | 300-25 | *E.coli* | 36.8 kDa | 2µg | 10µg | 1mg |
| Murine M-CSF | 315-02 | *E.coli* | 36.4 kDa | 2µg | 10µg | 1mg |
| Rat M-CSF | 400-28 | *E.coli* | 36.2 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human M-CSF | AF-300-25 | *E.coli* | 36.8 kDa | 2µg | 10µg | 1mg |
| Murine M-CSF | AF-315-02 | *E.coli* | 36.4 kDa | 2µg | 10µg | 1mg |
| Rat M-CSF | AF-400-28 | *E.coli* | 36.2 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

*M-CSF continued on next page...*

# M-CSF *continued...*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human M-CSF | 500-P44 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human M-CSF | 500-P44Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine M-CSF | 500-P62G | *Goat* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Murine M-CSF | 500-P62GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP Conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Murine M-CSF | **ABTS CATALOG #** 900-K245 |

M

# MCPs *Monocyte Chemotactic Proteins*

**Synonyms: MCP-1:** CCL2, MCAF, JE (murine); **MCP-2:** CCL8, HC14; **MCP-3:** CCL7, MARC; **MCP-4:** CCL13, NCC-1; **MCP-5:** CCL12

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human MCP-1 (CCL2) | 300-04 | *E.coli* | 8.6 kDa | 5µg | 20µg | 1mg |
| Murine JE/MCP-1 (CCL2) | 250-10 | *E.coli* | 13.8 kDa | 2µg | 10µg | 1mg |
| Rat MCP-1 (CCL2) | 400-12 | *E.coli* | 14.0 kDa | 2µg | 10µg | 1mg |
| Human MCP-2 (CCL8) | 300-15 | *E.coli* | 8.9 kDa | 2µg | 10µg | 1mg |
| Murine MCP-2 (CCL8) | 250-14 | *E.coli* | 8.5 kDa | 5µg | 20µg | 1mg |
| Human MCP-3 (CCL7) | 300-17 | *E.coli* | 9.0 kDa | 2µg | 10µg | 1mg |
| Murine MCP-3 (CCL7) | 250-08 | *E.coli* | 8.5 kDa | 2µg | 10µg | 1mg |
| Human MCP-4 (CCL13) | 300-24 | *E.coli* | 8.6 kDa | 5µg | 20µg | 1mg |
| Murine MCP-5 (CCL12) | 250-04 | *E.coli* | 9.3 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human MCP-1 (CCL2) | AF-300-04 | *E.coli* | 8.6 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human MCP-1 | 500-P34 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human MCP-1 | 500-P34Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine JE/MCP-1 | 500-P113 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Murine JE/MCP-1 | 500-P113Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

*MCP continued on next page...*



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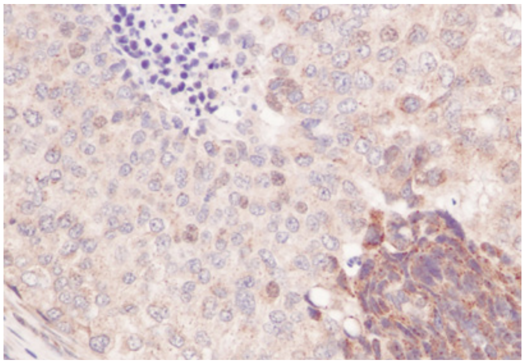
# MCPs *continued...*

*Human breast invasive ductal carcinoma (FFPE) stained with Rabbit Anti-Human MCP-1 at 2.5 µg/ml. Tear shaped mammary duct with tumor cells and normal cells. Tissue samples were provided by the Cooperative Human Tissue Network, which is funded by the NCI. Other investigators may have received specimens from the same subjects. Photographs by PeproTech.*





## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Rat MCP-1 | 500-P76 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Rat MCP-1 | 500-P76Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Human MCP-2 | 500-P35 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human MCP-2 | 500-P35Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine MCP-2 | 500-P127 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Murine MCP-2 | 500-P127Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Human MCP-3 | 500-P37G | *Goat* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human MCP-3 | 500-P37GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine MCP-3 | 500-P116G | *Goat* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Murine MCP-3 | 500-P116GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Human MCP-4 | 500-P04 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human MCP-4 | 500-P04Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Human MCP-4 | 500-P04G | *Goat* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human MCP-4 | 500-P04Gbt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine MCP-5 | 500-P61 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Murine MCP-5 | 500-P61Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-Human MCP-1 | 500-M71 | *Mouse* | I, E, WB, NA | 500µg |
| Anti-Human MCP-2 | 500-M69 | *Mouse* | E, WB, NA | 500µg |
| Anti-Human MCP-3 | 500-M73 | *Mouse* | E, WB, N | 500µg |
| Anti-Human MCP-4 | 500-M70 | *Mouse* | E, WB, N | 500µg |

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human MCP-1 | **ABTS CATALOG #** 900-K31 |
| Human MCP-1 | **TMB CATALOG #** 900-T31 |
| Murine JE/MCP-1 | **ABTS CATALOG #** 900-K126 |
| Rat MCP-1 | **ABTS CATALOG #** 900-K59 |
| Human MCP-2 | **ABTS CATALOG #** 900-K41 |
| Murine MCP-3 | **ABTS CATALOG #** 900-K123 |

*MCP continued on next page...*

# MCPs *continued...*

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Human MCP-1 | **ABTS CATALOG #** 900-M31 |
| Human MCP-1 | **TMB CATALOG #** 900-TM31 |
| Murine JE/MCP-1 | **ABTS CATALOG #** 900-M126 |
| Rat MCP-1 | **ABTS CATALOG #** 900-M59 |
| Human MCP-2 | **ABTS CATALOG #** 900-M41 |

# MDC (CCL22) *Macrophage-Derived Chemokine*

**Synonyms:** STCP-1, ABCD-1



## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human MDC (67 a.a.) (CCL22) | 300-36 | *E.coli* | 8.0 kDa | 5µg | 20µg | 1mg |
| Human MDC (69 a.a.) (CCL22) | 300-36A | *E.coli* | 8.1 kDa | 5µg | 20µg | 1mg |
| Murine MDC (CCL22) | 250-23 | *E.coli* | 7.8 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human MDC | 500-P107 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human MDC | 500-P107Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine MDC | 500-P176 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Murine MDC | 500-P176Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

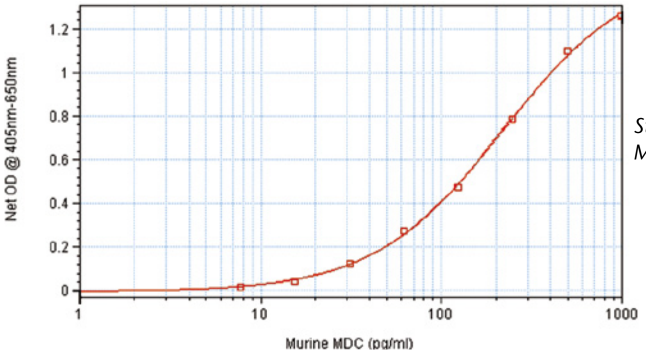
## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-Human MDC | 500-M41 | *Mouse* | E, WB, NA | 500µg |

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Murine MDC | **ABTS CATALOG #** 900-K197 |




*Standard curve using Murine MDC ELISA Development Kit.*

# MEC (CCL28) *Mucosae-associated Epithelial Chemokine*

**Synonyms:** CCK-1

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human MEC | 300-57 | *E.coli* | 12.3 kDa | 5µg | 20µg | 1mg |
| Murine MEC | 250-30 | *E.coli* | 12.6 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human MEC | 500-P297 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human MEC | 500-P297Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# Mesothelin

**Synonyms:** MPF, MSLN, SMRP, CAK1 antigen, ERC, Pre-pro-megakaryocyte-potentiating factor

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Mesothelin | 100-63 | *CHO cells* | 36.4 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*

# MIA *Melanoma Inhibitory Activity*

**Synonyms:** Cartilage-Derived Retinoic Acid-sensitive Protein (CD-RAP)

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human MIA | 130-01 | *E.coli* | 12.2 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

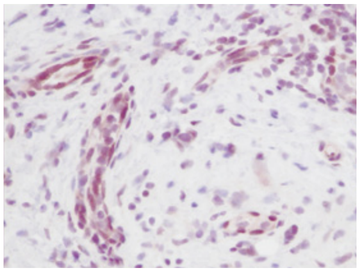
## Polyclonal Antibodies - Antigen Affinity Purified

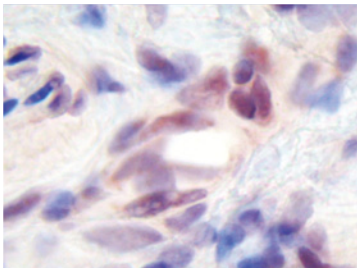
| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human MIA | 500-P243 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human MIA | 500-P243Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

*Human pancreas adenocarcinoma (FFPE) stained with Rabbit Anti-Human MIA at 1.0 µg/ml. Tissue samples were provided by the Cooperative Human Tissue Network, which is funded by the NCI. Other investigators may have received specimens from the same subjects. Photographs provided by PeproTech and Patsy Ruegg.*





M

# MIA-2 *Melanoma Inhibitory Activity-2*

**Synonyms:** none

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human MIA-2 | 130-02 | *E.coli* | 11.5 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

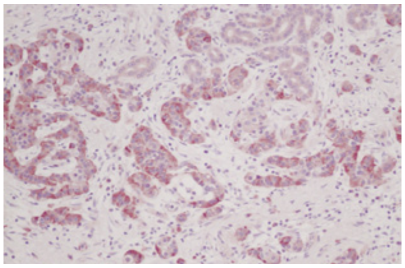
| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human MIA-2 | 500-P255 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human MIA-2 | 500-P255Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human MIA-2 | **ABTS CATALOG #** 900-K357 |



*Human pancreas infiltrating ductal adenocarcinoma tissue(FFPE) stained with Rabbit Anti-Human MIA-2 at 5.0 µg/ml. Tissue samples were provided by the Cooperative Human Tissue Network, which is funded by the NCI. Other investigators may have received specimens from the same subjects. Photograph by PeproTech.*

M

# Midkine

**Synonyms:** MK, NEGF-2

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Midkine | 450-16 | *E.coli* | 13.4 kDa | 5µg | 20µg | 1mg |
| Murine Midkine | 315-25 | *E.coli* | 13.3 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human Midkine | 500-P171 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human Midkine | 500-P171Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP Conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human Midkine | **ABTS CATALOG #** 900-K190 |



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# MIF *Macrophage Migration Inhibitory Factor*

**Synonyms:** GLIF, MMIF, GIF, Glycosylation-Inhibiting Factor

## Recombinant Proteins

| PRODUCT | | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|---|
| Human MIF | CARTAGENA | 300-69 | *Insect cells* | 15.0 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

# MIG (CXCL9) *Monokine Induced by Interferon-γ*

**Synonyms:** None

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human MIG (CXCL9) | 300-26 | *E.coli* | 11.7 kDa | 5µg | 20µg | 1mg |
| Murine MIG (CXCL9) | 250-18 | *E.coli* | 12.2 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human MIG | 500-P50 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human MIG | 500-P50Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-Human MIG | 500-M42 | *Mouse* | E, WB, N | 500µg |

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human MIG | **ABTS CATALOG #** 900-K87 |

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Human MIG | **ABTS CATALOG #** 900-M87 |

# MIP-1$\alpha$ (CCL3), $\beta$ (CCL4) *Macrophage Inflammatory Proteins-1 alpha, beta*

**Synonyms: MIP-1α:** LD78α; **MIP-1β:** ACT-2

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human MIP-1α | 300-08 | *E.coli* | 7.8 kDa | 5µg | 20µg | 1mg |
| Murine MIP-1α | 250-09 | *E.coli* | 7.8 kDa | 2µg | 10µg | 1mg |
| Rat MIP-1α | 400-15 | *E.coli* | 7.8 kDa | 5µg | 20µg | 1mg |
| Human MIP-1β | 300-09 | *E.coli* | 7.6 kDa | 2µg | 10µg | 1mg |
| Murine MIP-1β | 250-32 | *E.coli* | 7.8 kDa | 2µg | 10µg | 1mg |
| Rat MIP-1β | 400-09 | *E.coli* | 7.8 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human MIP-1α | 500-P38 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human MIP-1α | 500-P38bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Human MIP-1α | 500-P38G | *Goat* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human MIP-1α | 500-P38GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine MIP-1α | 500-P121 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Murine MIP-1α | 500-P121Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Rat MIP-1α | 500-P77 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Rat MIP-1α | 500-P77Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Human MIP-1β | 500-P38B | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human MIP-1β | 500-P38BBt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine MIP-1β | 500-P213 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Murine MIP-1β | 500-P213Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-Human MIP-1α | 500-M74 | *Mouse* | E, WB, N | 500µg |

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and HRP conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human MIP-1α | **ABTS CATALOG #** 900-K35 |
| Murine MIP-1α | **ABTS CATALOG #** 900-K125 |
| Rat MIP-1α | **ABTS CATALOG #** 900-K75 |
| Human MIP-1β | **TMB CATALOG #** 900-T36 |
| Murine MIP-1β | **ABTS Catalog #** 900-K278 |

## Mini ELISA Development Kit

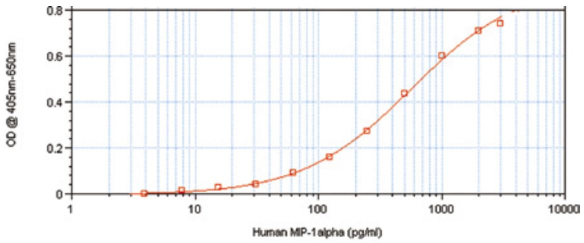
Each kit contains: capture antibody, detection antibody, calibrated standard, and HRP conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Human MIP-1α | **ABTS CATALOG #** 900-M35 |
| Murine MIP-1α | **ABTS CATALOG #** 900-M125 |
| Human MIP-1β | **TMB CATALOG #** 900-TM36 |
| Murine MIP-1β | **ABTS CATALOG #** 900-M278 |

*See next page for standard curve for Human MIP-1 alpha ELISA Development Kit...*

# MIP-1α, β *continued…*

*Standard curve using the Human MIP-1α ABTS ELISA Development Kit.*






# MIP-1γ (CCL9/10) *Macrophage Inflammatory Protein-1 gamma*

**Synonyms:** MRP-2, CCF18

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Murine MIP-1γ (CCL9/10) | 250-12 | *E.coli* | 11.6 kDa | 5µg | 20µg | 1mg |

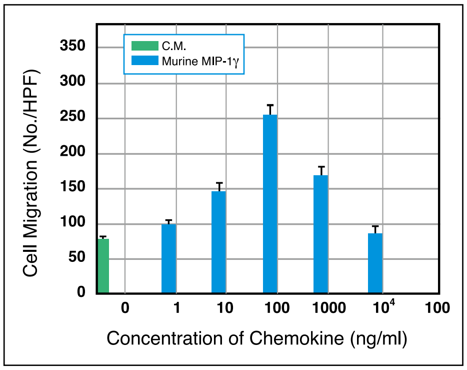
*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Murine MIP-1γ | 500-P117 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Murine MIP-1γ | 500-P117Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated
**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

*Murine MIP-1γ induces chemotaxis of purified human monocytes.*




# MIP-2 (CXCL2) *(See GROβ)*

**Synonyms:** GROβ

# MIP-2 *Macrophage Inflammatory Protein-2*

**Synonyms:** none

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Viral MIP-2 | 350-03 | *E.coli* | 7.9 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*

# MIP-3 (CCL23) *Macrophage Inflammatory Protein-3*

**Synonyms:** MPIF-1, Ck-β8

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human MIP-3 (CCL23) | 300-29 | *E.coli* | 11.3 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human MIP-3 | 500-P124 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human MIP-3 | 500-P124Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

M

# MIP-3α (CCL20) *Macrophage Inflammatory Protein-3 alpha*

**Synonyms:** LARC, Exodus-1

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human MIP-3α (CCL20) | 300-29A | *E.coli* | 8.0 kDa | 5µg | 20µg | 1mg |
| Murine MIP-3α (CCL20) | 250-27 | *E.coli* | 7.9 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

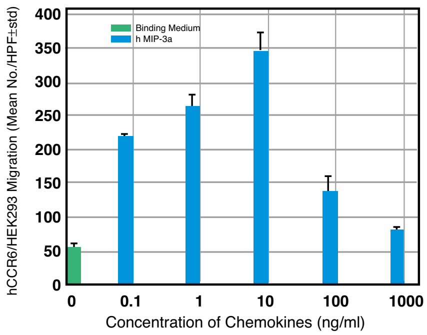
| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human MIP-3α | 500-P95A | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human MIP-3α | 500-P95ABt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-Human MIP-3α | 500-M28 | *Mouse* | E, WB, NA | 500µg |




*Human MIP-3α (CCL20) induces chemotaxis of HEK293 cells transfected with human CCR6.*



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# MIP-3β (CCL19) *Macrophage Inflammatory Protein-3 beta*

**Synonyms:** ELC, Exodus-3, SCYA19

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human MIP-3β (CCL19) | 300-29B | *E.coli* | 8.8 kDa | 5µg | 20µg | 1mg |
| Murine MIP-3β (CCL19) | 250-27B | *E.coli* | 9.2 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

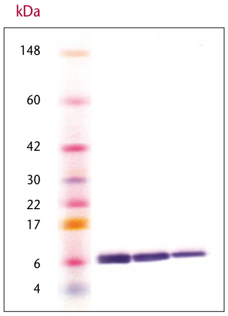
## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human MIP-3β | 500-P95B | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human MIP-3β | 500-P95BBt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated  **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-Human MIP-3β | 500-M29 | *Mouse* | I, E, WB, NA | 500µg |




*Representative Western Transfer (blot) analysis of Human MIP-3β using Anti-Human MIP-3β at 0.20µgml.*

# MIP-4 (CCL18) *Macrophage Inflammatory Protein-4*

**Synonyms:** PARC, DC-CK1, AMAC-1

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human MIP-4 (CCL18) | 300-34 | *E.coli* | 7.8 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human MIP-4 | 500-P108 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human MIP-4 | 500-P108Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated  **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# MIP-5 (CCL15) *Macrophage Inflammatory Protein-5*

**Synonyms:** HCC-2, Lkn-1

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human MIP-5 (CCL15) | 300-43 | *E.coli* | 10.1 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human MIP-5 | 500-P123G | *Goat* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human MIP-5 | 500-P123GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# MMP-1 *Matrix Metalloproteinase-1*

**Synonyms:** Fibroblast Collagenase, Interstitial Collagenase

M

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human MMP-1 | 420-01 | *E.coli* | 42.7 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

# MMP-2 *Matrix Metalloproteinase-2*

**Synonyms:** Gelatinase A, TBE-1

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human MMP-2 | 420-02 | *E.coli* | 62.0 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

# MMP-3 *Matrix Metalloproteinase-3*

**Synonyms:** Stromelysin-1, SL-1, Transin-1

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human MMP-3 | 420-03 | *E.coli* | 42.8 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

# MPF

**Synonyms:** Mesothelin, MSLN, SMRP, CAK1 antigen, Pre-pro-megakaryocyte-potentiating factor

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human MPF | 100-62 | *CHO cells* | 26.7 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*

# MSP

**Synonyms:** Hepatocyte growth factor-like protein, Macrophage stimulatory protein, Macrophage-stimulating protein, MST1, D3F15S2, DNF15S2, HGFL

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human MSP | 100-59 | *CHO cells* | 78.3 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

# Myostatin

**Synonyms:** GDF-8

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human/Murine/Rat Myostatin | 120-00 | *E.coli* | 25.0 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

# Myostatin-Propeptide

**Synonyms:** none

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Myostatin-Propeptide | 120-12 | *E.coli* | 27.8 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

# Nanog

**Synonyms:** none

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Nanog | 120-21 | *E.coli* | 34.5 kDa | 5µg | 20µg | 1mg |
| Human Nanog-TAT | 120-21B | *E.coli* | 36.1 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

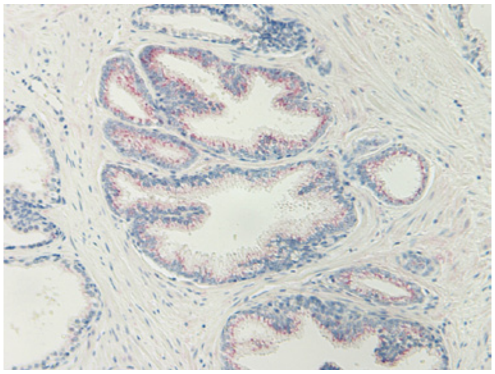
## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human Nanog | 500-P236 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human Nanog | 500-P236Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

*Human prostate malignant adenocarcinoma (FFPE) stained with Rabbit Anti-Human Nanog at 0.5 µg/mL. Staining of tumor cells. Tissue samples were provided by the Cooperative Human Tissue Network, which is funded by the National Cancer Institute. Other investigators may have received specimens from the same subjects.*



M-N

# NAP-2 (CXCL7) *Neutrophil Activating Protein-2*

**Synonyms:** PBP (parent molecule), CTAP-III (precursor)

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human NAP-2 (CXCL7) | 300-14 | *E.coli* | 7.6 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human NAP-2 | 500-P03 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human NAP-2 | 500-P03Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Human NAP-2 | 500-P03G | *Goat* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human NAP-2 | 500-P03GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-Human NAP-2 | 500-M33 | *Mouse* | E, WB, NA | 500µg |

N

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP Conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human NAP-2 | **ABTS CATALOG #** 900-K40 |

# Nesfatin-1

**Synonyms:** none

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Nesfatin-1 | 300-67 | *E.coli* | 9.7 kDa | 20µg | 100µg | 1mg |

*Additional sizes available please inquire*

# Neuritin

**Synonyms:** CPG15, NRN1

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Neuritin | 450-36D | *E.coli* | 19.4 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

# Neuropoietin

**Synonyms:** NPO, NP

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Murine Neuropoietin | 250-25B | *E.coli* | 19.8 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

# Neuroserpin

**Synonyms:** Serpin I1, Protease inhibitor 12

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Neuroserpin | 130-14 | *E.coli* | 44.8 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human Neuroserpin | 500-P271 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human Neuroserpin | 500-P271Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP Conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human Neuroserpin | **ABTS CATALOG #** 900-K412 |

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP Conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Human Neuroserpin | **ABTS CATALOG #** 900-M412 |

N

# Neurturin

**Synonyms:** NTN, NRTN

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Neurturin | 450-11 | *E.coli* | 23.6 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human Neurturin | 500-P102 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human Neurturin | 500-P102bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# β-NGF *beta-Nerve Growth Factor*

**Synonyms:** NGF-β

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human β-NGF | 450-01 | *E.coli* | 27.0 kDa | 20μg | 100μg | 1mg |
| Murine β-NGF | 450-34 | *E.coli* | 26.8 kDa | 5μg | 20μg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human β-NGF | AF-450-01 | *E.coli* | 27.0 kDa | 20μg | 100μg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human β-NGF | 500-P85 | *Rabbit* | I, E, WB, N | 50μg | 100μg | 1mg |
| Biot. Anti-Human β-NGF | 500-P85Bt | *Rabbit* | E, WB, NA | 25μg | 50μg | 1mg |

Biot. = Biotinylated    **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

N

## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-Human β-NGF | 500-M85 | *Mouse* | I, E, WB, N | 500μg |

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP Conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human β-NGF | **ABTS CATALOG #** 900-K60 |

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP Conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Human β-NGF | **ABTS CATALOG #** 900-M60 |

# NNT-1/BCSF-3 *Novel Neurotrophin-1/B-Cell Stimulating Factor-3*

**Synonyms:** Cardiotrophin-like cytokine

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human NNT-1/BCSF-3 | 450-18 | *E.coli* | 22.4 kDa | 2μg | 10μg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-human NNT-1/BCSF-3 | 500-P186 | *Rabbit* | E, WB, NA | 50μg | 100μg | 1mg |
| Biot. anti-human NNT-1/BCSF-3 | 500-P186bt | *Rabbit* | E, WB, NA | 25μg | 50μg | 1mg |

Biot. = Biotinylated    **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested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# Noggin

**Synonyms:** none

### Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Noggin | 120-10C | *HEK293 cells* | 46.0 kDa | 5µg | 20µg | 1mg |
| Murine Noggin | 250-38 | *E.coli* | 46.4 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

### Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Murine Noggin | AF-250-38 | *E.coli* | 46.4 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

# NOV *Nephroblastoma Overexpressed gene*

**Synonyms:** CCN3, IGFBP9, NovH

### Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human NOV | 120-26 | *E.coli* | 36.2 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

### Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human NOV | 500-P257 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human NOV | 500-P257Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

### ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP Conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human NOV | **ABTS CATALOG #** 900-K338 |

# NP-1 *Neutrophil Peptide-1*

**Synonyms:** Alpha-Defensin-1, HNP-1, Cryptdin

### Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human NP-1 | 300-42 | *E.coli* | 3.4 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

### Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human NP-1 | 500-P126G | *Goat* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human NP-1 | 500-P126GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# NT-3 *Neurotrophin-3*

**Synonyms:** Neurotrophic Factor, Nerve Growth Factor-2 (NGF-2), HGNF

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human NT-3 | 450-03 | *E.coli* | 27.2 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human NT-3 | AF-450-03 | *E.coli* | 27. 2 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human NT-3 | 500-P82G | *Goat* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human NT-3 | 500-P82GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

N

# NT-4 *Neurotrophin-4*

**Synonyms:** Neurotrophic 4/5 (NT-4/NT-5)

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human NT-4 | 450-04 | *E.coli* | 28.1 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human NT-4 | AF-450-04 | *E.coli* | 28. 1 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human NT-4 | 500-P83G | *Goat* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human NT-4 | 500-P83GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-Human NT-4 | 500-M24 | *Mouse* | E, NA | 500µg |

# Oncostatin M

**Synonyms:** OSM

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Oncostatin M (227 a.a.) | 300-10 | *E.coli* | 25.7 kDa | 2µg | 10µg | 1mg |
| Human Oncostatin M (209 a.a.) | 300-10T | *E.coli* | 23.6 kDa | 2µg | 10µg | 1mg |
| Rat Oncostatin M | 400-36 | *E.coli* | 24.4 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Oncostatin M (209 a.a.) | AF-300-10T | *E.coli* | 23.6 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

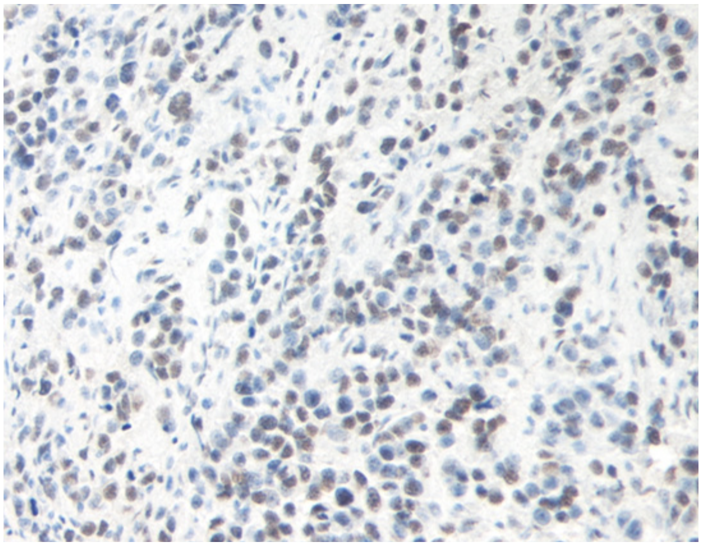
## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human Oncostatin M | 500-P30 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human Oncostatin M | 500-P30Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested





*Human breast malignant ductal adenocarcinoma (FFPE) stained with Rabbit Anti-Human Oncostatin M at 0.5µg/ml.*
*Tissue samples were provided by the Cooperative Human Tissue Network, which is funded by the National Cancer Institute. Other investigators may have received specimens from the same subjects.*
*Photograph provided by Patsy Ruegg for PeproTech.*

# OPG *Osteoprotegerin*

**Synonyms:** TNFRSF11B, OCIF (Osteoclastogenesis Inhibitory Factor), TR1

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human OPG | 450-14 | *E.coli* | 20.0 kDa | 10µg | 50µg | 1mg |

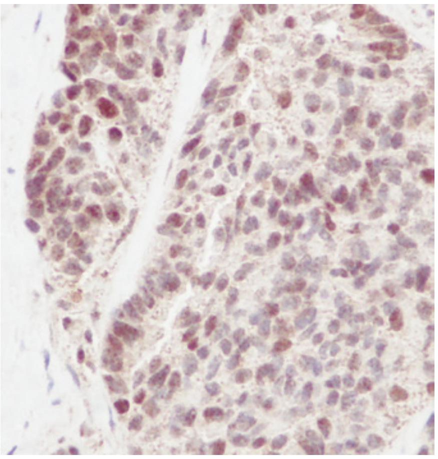
*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human OPG | 500-P149 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human OPG | 500-P149Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

*Human breast invasive ductal carcinoma (FFPE) stained with Rabbit Anti-Human OPG at 5.0 µg/ml. Tissue samples were provided by the Cooperative Human Tissue Network, which is funded by the NCI. Other investigators may have received specimens from the same subjects.*



# Osteopontin

**Synonyms:** Bone sialoprotein 1, Secreted phosphoprotein 1, SPP-1, Nephropontin, Uropontin

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Osteopontin | 120-35 | *HEK293 cells* | 33.7 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*

# OTOR

**Synonyms:** Otoraplin, MIAL (Melonoma Inhibitory Activity-Like Protein)

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human OTOR | 130-03 | *E.coli* | 12.7 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

# sOX40 Ligand

**Synonyms:** OX40L, Gp34, CD252, TXGP1, TNFSF4

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human sOX40 Ligand CARTAGENA | 310-28 | *Insect cells* | 15.4 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

# p16-INK4a

**Synonyms:** Cyclin-Dependent Kinase Inhibitor 2A, Cyclin-Dependent Kinase 4 Inhibitor A, CDK4I, p16INK4A, Multiple Tumor Suppressor 1, MTS-1

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human p16-INK4a | 110-02 | *E.coli* | 16.5 kDa | 5µg | 20µg | 1mg |
| Human p16-INK4a-TAT | 110-02T | *E.coli* | 18.0 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human p16-INK4a-TAT | 500-P284T | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human p16-INK4a-TAT | 500-P284TBt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# PAF-AH

**Synonyms:** PAF acetylhydrolase, PAF 2-acylhydrolase, LDL-associated Phospholipase A2, LDL-PLA (2), 2-acetyl-1-alkylglycerophosphocholine esterase, 1-alkyl-2-acetylglycerophosphocholine esterase

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human PAF-AH | 140-10 | *HEK293 cells* | 47.8 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

# PAI-1 *Plasminogen Activator Inhibitor-1*

**Synonyms:** Serpin E1

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human PAI-1 | 140-04 | *E.coli* | 42.7 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human PAI-1 | 500-P260 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human PAI-1 | 500-P260Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP Conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human PAI-1 | **ABTS CATALOG #** 900-K383 |

# PAI-2 *Plasminogen Activator Inhibitor-2*

**Synonyms:** Serpin B2, Urokinase Inhibitor, Monocyte Arg-serpin

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human PAI-2 | 140-06 | *E.coli* | 46.5 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

P

# PDGF AA, AB, BB, CC *Platelet-Derived Growth Factor*

**Synonyms: PDGF-AA:** Platelet-Derived Growth Factor-AA, Glioma-Derived Growth Factor (GDGF), Osteosarcoma-Derived Growth Factor (ODGF); **PDGF-AB:** Platelet-Derived Growth Factor-AB, Glioma-Derived Growth Factor (GDGF), Osteosarcoma-Derived Growth Factor (ODGF), PCGF; **PDGF-BB:** Platelet-Derived Growth Factor-BB, Glioma-Derived Growth Factor (GDGF), Osteosarcoma-Derived Growth Factor (ODGF); **PDGF-CC:** Platelet-Derived Growth Factor-CC

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human PDGF-AA | 100-13A | *E.coli* | 28.5 kDa | 2µg | 10µg | 1mg |
| Murine PDGF-AA | 315-17 | *E.coli* | 28.7 kDa | 2µg | 10µg | 1mg |
| Human PDGF-AB | 100-00AB | *E.coli* | 26.4 kDa | 2µg | 10µg | 1mg |
| Human PDGF-BB | 100-14B | *E.coli* | 24.3 kDa | 2µg | 10µg | 1mg |
| Murine PDGF-BB | 315-18 | *E.coli* | 24.4 kDa | 2µg | 10µg | 1mg |
| Human PDGF-CC | 100-00CC | *E.coli* | 25.0 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human PDGF-AA | AF-100-13A | *E.coli* | 28.5 kDa | 2µg | 10µg | 1mg |
| Human PDGF-BB | AF-100-14B | *E.coli* | 24.3 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human PDGF-AA | 500-P46 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human PDGF-AA | 500-P46Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Human PDGF-BB | 500-P47 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human PDGF-BB | 500-P47Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

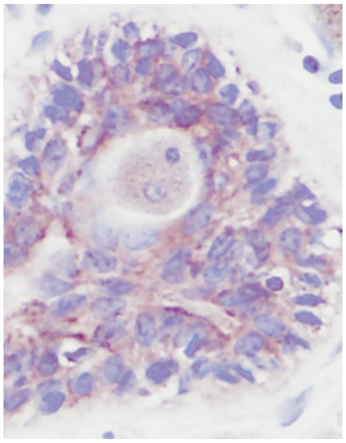
Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP Conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

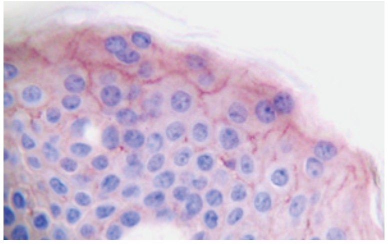
Human PDGF-BB — **ABTS CATALOG #** 900-K04

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP Conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

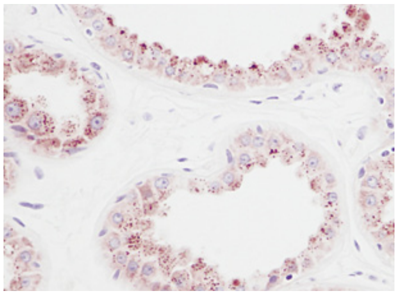
Human PDGF-BB — **ABTS CATALOG #** 900-M04





*Normal human skin (FFPE) stained with rabbit anti-human PDGF-AA at 1.0 µg/ml.*

*Photographs provided by Patsy Ruegg for PeproTech.*



*Normal human skin (FFPE) stained with rabbit anti-human PDGF-BB at 1.0 µg/ml. Granular staining of the sweat gland epithelial cells in the dermis.*

*Photograph by PeproTech.*

# PECAM-1 *Platelet Endothelial Cell Adhesion Molecule*

**Synonyms:** CD31 antigen, EndoCAM

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human PECAM-1 | 150-06 | *HEK293 cells* | 64.3 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*

# PEDF *Pigment Epithelium-Derived Factor*

**Synonyms:** SerpinF1, EPC-1

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human PEDF | 130-13 | *E.coli* | 44.5 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

# Persephin

**Synonyms:** PSP, PSPN

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Persephin | 450-12 | *E.coli* | 20.8 kDa | 5µg | 20µg | 1mg |
| Murine Persephin | 450-35 | *E.coli* | 20.6 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human Persephin | 500-P138 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human Persephin | 500-P138Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# PF-4 (CXCL4) *Platelet Factor-4*

**Synonyms:** Oncostatin A, Ironplact

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human PF-4 (CXCL4) | 300-16 | *E.coli* | 7.8 kDa | 5µg | 20µg | 1mg |
| Murine PF-4 (CXCL4) | 250-39 | *E.coli* | 8.2 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human PF-4 | 500-P05 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human PF-4 | 500-P05Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# Pleiotrophin

**Synonyms:** PTN, Heparin Affin Regulatory Protein (HARP), Heparin-Binding Growth Factor-8 (HBGF-8), Osteoblast-Specific Factor 1 (OSF-1)

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Pleiotrophin | 450-15 | *E.coli* | 15.4 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

# PlGF-1 *Placenta Growth Factor-1*

**Synonyms:** PGF, PlGF

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human PlGF-1 | 100-06 | *E.coli* | 29.7 kDa | 5µg | 25µg | 1mg |
| Rat PlGF-1 | 400-39 | *E.coli* | 30.3 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human PlGF-1 | AF-100-06 | *E.coli* | 29.7 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human PlGF-1 | 500-P226 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human PlGF-1 | 500-P226Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

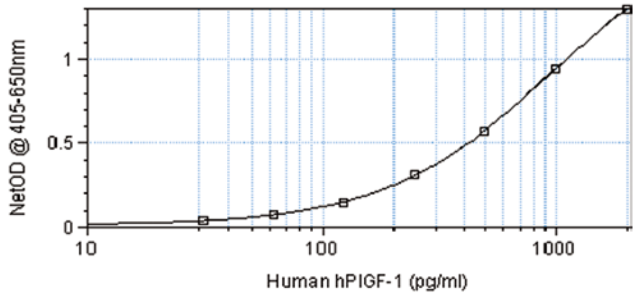
**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP Conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human PlGF-1 | **ABTS CATALOG #** 900-K307 |

*Standard curve using Human PlGF-1 ELISA Development Kit.*



# PlGF-2 *Placenta Growth Factor-2*

**Synonyms:** PGFL

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human PlGF-2 | 100-56 | *E.coli* | 34.0 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

# PlGF-3 *Placenta Growth Factor-3*

**Synonyms:** PGFL

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human PlGF-3 | 100-57 | *E.coli* | 45.7 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*



# Prokineticin-2

**Synonyms:** PROK2, PK2, Protein Bv8 homolog

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Prokineticin-2 | 100-46 | *E.coli* | 8.8 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

# Prolactin

**Synonyms:** Mammotropin, Luterotropic hormone, Lutetropin

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Prolactin | 100-07 | *E.coli* | 23.0 kDa | 10µg | 50µg | 1mg |
| Murine Prolactin | 315-16 | *E.coli* | 22.5 kDa | 10µg | 50µg | 1mg |
| Rat Prolactin | 400-27 | *E.coli* | 22.6 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*

# PTHrP *Parathyroid Hormone-related Protein*

**Synonyms:** none

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human PTHrP | 100-09 | *E.coli* | 9.8 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human PTHrP | 500-P276 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human PTHrP | 500-P276Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# R-Spondin-1, -2, -3 *Roof plate-specific Spondin-1, -2, -3*

**Synonyms: R-Spondin-1:** RSPO1; **R-Spondin-2:** RSPO2; **R-Spondin-3:** RSPO3, PWTSR, THSD2

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human R-Spondin-1 | 120-38 | *CHO cells* | 26.7 kDa | 5µg | 20µg | 1mg |
| Human R-Spondin-2 | 120-43 | *CHO cells* | 24.4 kDa | 5µg | 20µg | 1mg |
| Human R-Spondin-3 | 120-44 | *CHO cells* | 26.9 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

# sRANK Ligand *soluble Receptor Activator of NF-kB Ligand*

**Synonyms:** TNFSF11, TRANCE (TNF-Related Activation-induced Cytokine), OPGL (Osteoprotegerin Ligand), ODF (Osteoclast Differentiation Factor)

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human sRANK Ligand | 310-01 | *E.coli* | 20.0 kDa | 2µg | 10µg | 1mg |
| Murine sRANK Ligand | 315-11 | *E.coli* | 19.4 kDa | 2µg | 10µg | 1mg |
| Rat sRANK Ligand | 400-30 | *E.coli* | 19.4 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human sRANK Ligand | AF-310-01 | *E.coli* | 20.0 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

*sRANKL continued on next page...*

# sRANKL *continued…*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human sRANKL | 500-P133 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human sRANKL | 500-P133Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Human sRANKL | 500-P133G | *Goat* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human sRANKL | 500-P133GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine sRANKL | 500-P63 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Murine sRANKL | 500-P63bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-Human sRANKL | 500-M46 | *Mouse* | E, NA | 500µg |

## ELISA Development Kit

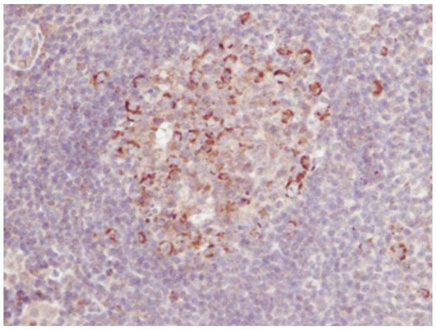
Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP Conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

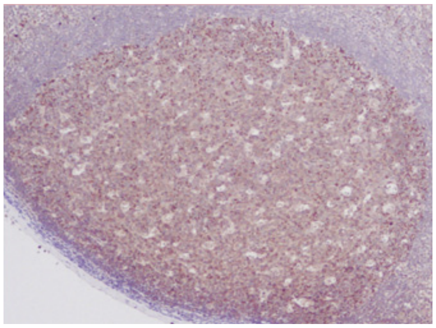
| | |
|---|---|
| Human sRANKL | **ABTS CATALOG #** 900-K142 |
| Murine sRANKL | **ABTS CATALOG #** 900-K233 |

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP Conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Human sRANKL | **ABTS CATALOG #** 900-M142 |
| Murine sRANKL | **ABTS CATALOG #** 900-M233 |





*Human metastatic carcinoma of lymph node (FFPE) from breast tissue stained with Rabbit Anti-Human sRANKL at 0.25 µg/ml. Staining of membranous cells located in the germinal center. Tissue samples were provided by the Cooperative Human Tissue Network, which is funded by the NCI. Other investigators may have received specimens from the same subjects.*

# sRANK Receptor *soluble RANK Receptor*

**Synonyms:** TNFRSF11A, TRANCE Receptor (TNF-Related Activation-induced Cytokine Receptor), ODAR (Osteoclast Differentiation and Activation Receptor), ODFR (Osteoclast Differentiation Factor Receptor)

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human sRANK Receptor | 310-08 | *E.coli* | 19.3 kDa | 20µg | 100µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

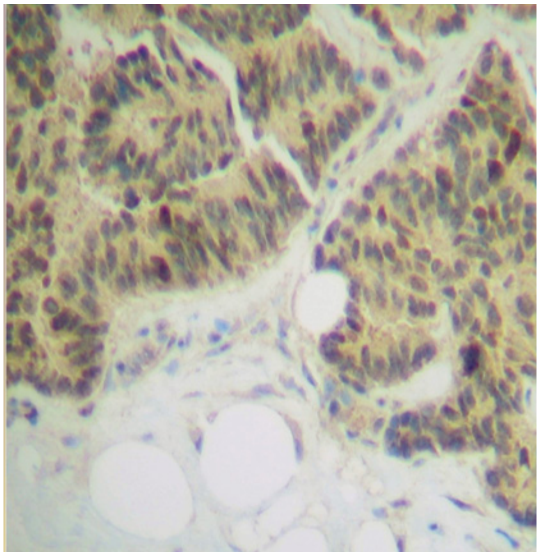
| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human sRANK Receptor | 500-P144 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human sRANK Receptor | 500-P144Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

R

*Human breast invasive ductal carcinoma (FFPE) stained with Rabbit Anti-Human sRANK receptor at 1.0 µg/ml.*
*Tissue samples were provided by the Cooperative Human Tissue Network, which is funded by the NCI. Other investigators may have received specimens from the same subjects.*



# RANTES (CCL5) *Regulation upon Activation Normal T-cell Expressed Sequence*

**Synonyms:** CCL5, SIS-delta

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human RANTES (CCL5) | 300-06 | *E.coli* | 7.8 kDa | 5µg | 20µg | 1mg |
| Murine RANTES (CCL5) | 250-07 | *E.coli* | 7.8 kDa | 5µg | 20µg | 1mg |
| Rat RANTES (CCL5) | 400-13 | *E.coli* | 7.9 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

*Continued on next page ...*

# RANTES *continued…*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human RANTES | AF-300-06 | *E.coli* | 7.8 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human RANTES | 500-P36 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human RANTES | 500-P36Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine RANTES | 500-P118 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Murine RANTES | 500-P118Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Rat RANTES | 500-P78 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Rat RANTES | 500-P78Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-Human RANTES | 500-M75 | *Mouse* | I, E, WB, N | 500µg |

## ELISA Development Kit

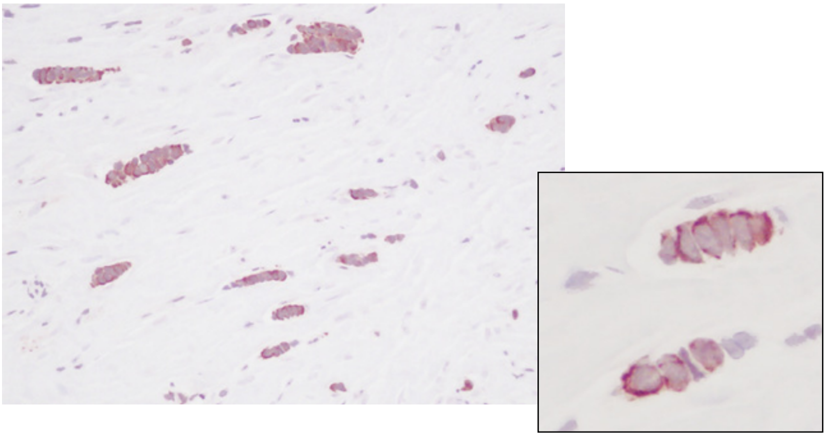
Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP Conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human RANTES | **ABTS CATALOG #** 900-K33 |
| Murine RANTES | **ABTS CATALOG #** 900-K124 |
| Rat RANTES | **ABTS CATALOG #** 900-K72 |

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP Conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Human RANTES | **ABTS CATALOG #** 900-M33 |
| Murine RANTES | **ABTS CATALOG #** 900-M124 |
| Rat RANTES | **ABTS CATALOG #** 900-M72 |



*Human breast invasive ductal carcinoma (FFPE) stained with Rabbit Anti-Human RANTES at 2.0 µg/ml. Membrane staining on infiltrating tumor cells.*

*Tissue samples were provided by the Cooperative Human Tissue Network, which is funded by the NCI. Other investigators may have received specimens from the same subjects.*

R

# Relaxin-2

**Synonyms:** H2 relaxin, RLN2

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Relaxin-2 | 130-15 | *E.coli* | 6.0 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

# Relaxin-3

**Synonyms:** H3 relaxin, Insulin-like peptide-7, INSL7

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Relaxin-3 | 130-10 | *E.coli* | 5.5 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

R

# RELMα *Resistin-like alpha*

**Synonyms:** Cysteine-rich secreted protein FIZZ1

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Murine RELMα | 450-26 | *E.coli* | 10.0 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

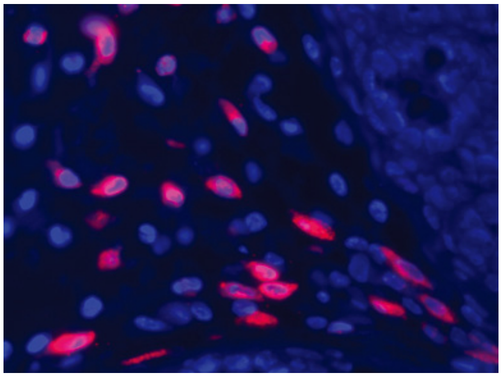
## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Murine RELMα | 500-P214 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Murine RELMα | 500-P214Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

*Murine cecum tissue (4% PFA, paraffin-embedded sections with positive cells infiltrating the Lamina Propia of a Trichuris muris infected mouse) stained with Rabbit Anti-Murine RELMα at 4.0 ng/ml. Information and photograph are courtesy of Katherine Guild and David Artis, University of Pennsylvania.*



# RELMβ *Resistin-like beta*

**Synonyms:** Cysteine-rich secreted protein FIZZ2

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human RELMβ | 450-22 | *E.coli* | 19.0 kDa | 5µg | 25µg | 1mg |
| Murine RELMβ | 450-26B | *E.coli* | 18.0 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

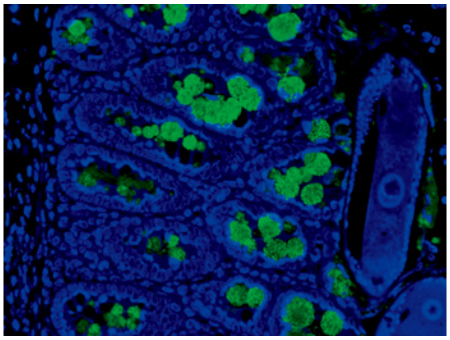
## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human RELMβ | 500-P217 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human RELMβ | 500-P217Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine RELMβ | 500-P215 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Murine RELMβ | 500-P215Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

*Murine cecum tissue (4% PFA, paraffin-embedded sections with positive goblet cells of a Trichuris muris infected mouse) stained with Rabbit Anti-Murine RELMβ at 0.33 ng/ml. Information and photograph are courtesy of Katherine Guild and David Artis, University of Pennsylvania.*





# RELMγ *Resistin-like gamma*

**Synonyms:** none

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Murine RELMγ | 450-26G | *E.coli* | 9.2 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

# Resistin

**Synonyms:** FIZZ3, Adipose tissue-specific secretory factor, ADSF

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Resistin | 450-19 | *E.coli* | 19.5 kDa | 5µg | 25µg | 1mg |
| Murine Resistin | 450-28 | *E.coli* | 20.2 kDa | 5µg | 25µg | 1mg |
| Rat Resistin | 400-35 | *E.coli* | 20.0 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human Resistin | 500-P183G | *Goat* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human Resistin | 500-P183GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine Resistin | 500-P182G | *Goat* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Murine Resistin | 500-P182GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

R

## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-Human Resistin | 500-M91 | *Mouse* | I, E, WB, NA | 500µg |

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP Conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

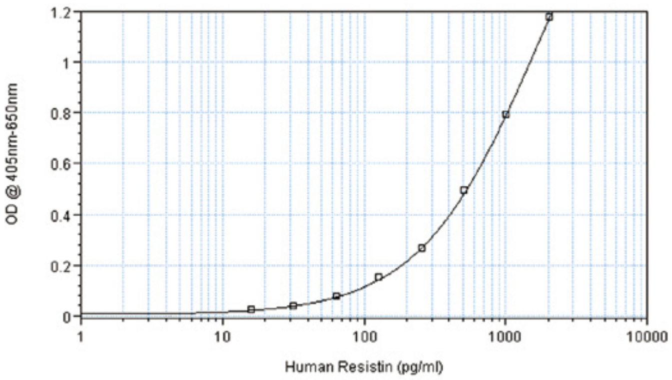
Human Resistin **ABTS CATALOG #** 900-K235

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP Conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

Human Resistin **ABTS CATALOG #** 900-M235

*Standard curve using human Resistin ELISA development kit.*



# ROR1

**Synonyms:** NTRKR1, Neurotrophic Tyrosine Kinase, Receptor-related 1, Tyrosine-protein kinase transmembrane receptor ROR1, Receptor-tyrosine-kinase-like Orphan Receptor 1

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human ROR1 | 160-04 | *CHO cells* | 42.4 kDa | 20µg | 100µg | 1mg |

*Additional sizes available please inquire*

# SCF *Stem Cell Factor*

**Synonyms:** c-Kit Ligand, Mast Cell Growth Factor (MGF), Steel Factor (SF)

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human SCF | 300-07 | *E.coli* | 18.4 kDa | 2µg | 10µg | 1mg |
| Murine SCF | 250-03 | *E.coli* | 18.3 kDa | 2µg | 10µg | 1mg |
| Rat SCF | 400-22 | *E.coli* | 18.4 kDa | 2µg | 10µg | 1mg |

** See page 6 for available Cytokine Packages.*

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human SCF | AF-300-07 | *E.coli* | 18.4 kDa | 2µg | 10µg | 1mg |
| Murine SCF | AF-250-03 | *E.coli* | 18.3 kDa | 2µg | 10µg | 1mg |
| Rat SCF | AF-400-22 | *E.coli* | 18.4 kDa | 2µg | 10µg | 1mg |

** See page 6 for available Cytokine Packages.*

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human SCF | 500-P48 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human SCF | 500-P48Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Human SCF | 500-P48G | *Goat* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human SCF | 500-P48GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine SCF | 500-P71 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Murine SCF | 500-P71Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Rat SCF | 500-P202 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Rat SCF | 500-P202Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-human SCF | 500-M44 | *Mouse* | I, E, WB, NA | 500µg |

*SCF continued on next page ...*

R-S

# SCF *continued…*

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and HRP Conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

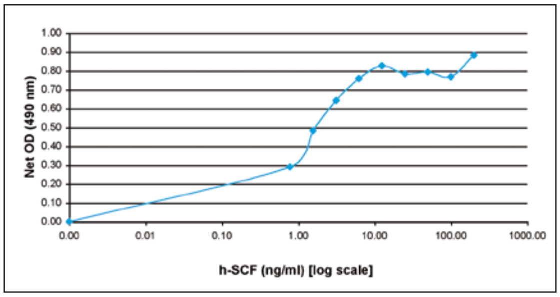
| | |
|---|---|
| Human SCF | **ABTS CATALOG #** 900-K34 |
| Human SCF | **TMB CATALOG #** 900-T34 |
| Murine SCF | **ABTS CATALOG #** 900-K78 |
| Rat SCF | **ABTS CATALOG #** 900-K258 |

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP Conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Human SCF | **TMB CATALOG #** 900-TM34 |
| Rat SCF | **ABTS CATALOG #** 900-M258 |

*Bioassay analysis of Human SCF (proliferation) using human TF-1 cells.*




# SCGF-$\alpha$, -$\beta$ *Stem Cell Growth Factor-alpha, -beta*

**Synonyms:** none

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human SCGF-α | 100-22A | *E.coli* | 33.9 kDa | 2µg | 10µg | 1mg |
| Human SCGF-β | 100-22B | *E.coli* | 25.0 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human SCGF-β | 500-P99G | *Goat* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human SCGF-β | 500-P99GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

S

# SDF-1α, β (CXCL12) *Stromal-Cell Derived Factor-1 alpha, beta*

**Synonyms:** PBSF

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human SDF-1α | 300-28A | *E.coli* | 8.0 kDa | 2µg | 10µg | 1mg |
| Murine SDF-1α | 250-20A | *E.coli* | 7.9 kDa | 2µg | 10µg | 1mg |
| Rat SDF-1α | 400-32A | *E.coli* | 7.9 kDa | 2µg | 10µg | 1mg |
| Human SDF-1β | 300-28B | *E.coli* | 8.5 kDa | 2µg | 10µg | 1mg |
| Murine SDF-1β | 250-20B | *E.coli* | 8.5 kDa | 2µg | 10µg | 1mg |
| Rat SDF-1β | 400-32B | *E.coli* | 8.4 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human SDF-1α | AF-300-28A | *E.coli* | 8.0 kDa | 2µg | 10µg | 1mg |
| Human SDF-1β | AF-300-28B | *E.coli* | 8.5 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human SDF-1α | 500-P87A | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human SDF-1α | 500-P87ABt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine SDF-1α | 500-P164G | *Goat* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Murine SDF-1α | 500-P164GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Rat SDF-1α | 500-P315 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Rat SDF-1α | 500-P315Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Human SDF-1β | 500-P87BG | *Goat* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human SDF-1β | 500-P87BGBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated    **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP Conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

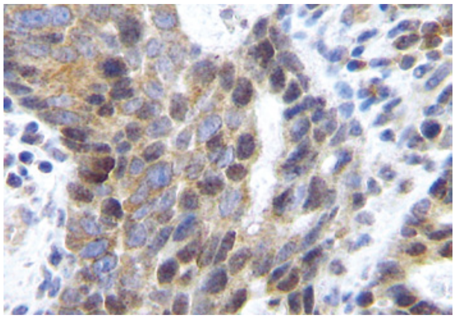
Human SDF-1α — **ABTS CATALOG #** 900-K92

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP Conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

Human SDF-1α — **ABTS CATALOG #** 900-M92

*Human colorectal adenocarcinoma (FFPE) stained with Rabbit Anti-Human SDF-1α at 0.5 µg/mL.*
*Tissue samples were provided by the Cooperative Human Tissue Network, which is funded by the National Cancer Institute. Other investigators may have received specimens from the same subjects. Photograph provided by Patsy Ruegg for PeproTech.*



S

# Semaphorin 3A

**Synonyms:** SEMA3A, SEMAD

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Semaphorin 3A | 150-17 | *CHO cells* | 173.2 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

# SF-20

**Synonyms:** IL-25

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Murine SF-20 | 210-25 | *E.coli* | 15.8 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Murine SF-20 | 500-P259 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Murine SF-20 | 500-P259Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

S

# Slit2-N

**Synonyms:** Slit homolog 2 protein, SLIL3

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Slit2-N | 150-11 | *HEK293 cells* | 122.35 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

# Sonic Hedgehog (Shh)

**Synonyms:** Hhg-1

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Sonic Hedgehog (Shh) | 100-45 | *E.coli* | 20.0 kDa | 5µg | 25µg | 1mg |
| Murine Sonic Hedgehog (Shh) | 315-22 | *E.coli* | 20.0 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

# Sox2

**Synonyms:** Sex determinining Region Y (SRY)-box 2

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Sox2 | 110-03 | *E.coli* | 34.3 kDa | 5µg | 25µg | 1mg |
| Human Sox2-TAT | 110-03T | *E.coli* | 36.0 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

# SPARC (Osteonectin) *Secreted Protein Acidic and Rich in Cysteine*

**Synonyms:** BM-40, ON

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human SPARC (Osteonectin) | 120-36 | *CHO cells* | 32.7 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*

# TACI (TNFRSF13B) *Transmembrane Activator and CAML Interactor*

**Synonyms:** None

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human TACI (TNFRSF13B) | 310-17 | *E.coli* | 17.8 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human TACI | 500-P166G | *Goat* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human TACI | 500-P166GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP Conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human TACI | **ABTS CATALOG #** 900-K216 |

S-T

# TAFA-2

**Synonyms:** Chemokine-like protein TAFA-2, FAM19A2

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human TAFA-2 | 300-63 | *E.coli* | 11.2 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

# TARC (CCL17) *Thymus and Activation Regulated Chemokine*

**Synonyms:** ABCD-2

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human TARC | 300-30 | *E.coli* | 8.0 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human TARC | 500-P97 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human TARC | 500-P97Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# TECK (CCL25) *Thymus-Expressed Chemokine*

**Synonyms:** none

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human TECK | 300-45 | *E.coli* | 14.2 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human TECK | 500-P134 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human TECK | 500-P134Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-Human TECK | 500-M48 | *Mouse* | I, E, WB, NA | 500µg |

T

# TFF-1, -2, -3 *TreFoil factor-1, -2, -3*

**Synonyms: TFF-1:** pS2 protein, HP1.A, Breast Cancer Estrogen-Inducible protein (BCEI), PNR2
**TFF-2:** Spasmolytic Polypeptide (SP), Spasmolysin
**TFF-3:** Intestinal Trefoil Factor, ITF, TFI

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human TFF-1 | 300-60 | *E.coli* | 6.7 kDa | 5µg | 20µg | 1mg |
| Human TFF-2 | 300-59 | *E.coli* | 12.0 kDa | 5µg | 20µg | 1mg |
| Human TFF-3 | 300-61 | *E.coli* | 13.2 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human TFF-2 | 500-P312 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human TFF-2 | 500-P312Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# TGF-$\alpha$ *Transforming Growth Factor-alpha*

**Synonyms:** Sarcoma growth factor, TGF-type I, ETGF

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human TGF-α | 100-16A | *E.coli* | 5.5 kDa | 20µg | 100µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human TGF-α | AF-100-16A | *E.coli* | 5.5 kDa | 20µg | 100µg | 1mg |

*Additional sizes available please inquire*

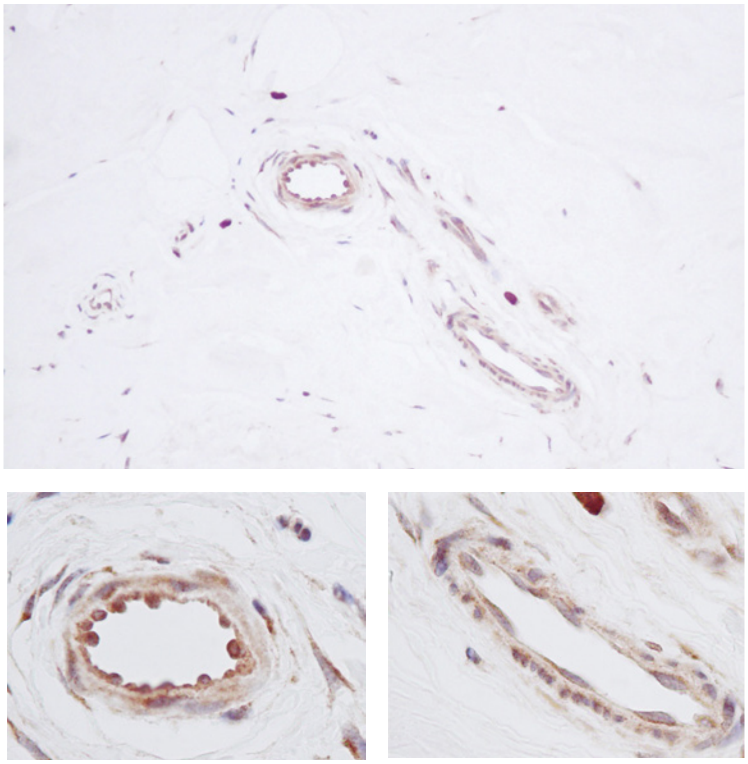
## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human TGF-α | 500-P16 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human TGF-α | 500-P16Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested





*Human breast invasive ductal carcinoma (FFPE) stained with Rabbit Anti-Human TGF-α at 0.5 µg/ml. Tissue samples were provided by the Cooperative Human Tissue Network, which is funded by the NCI. Other investigators may have received specimens from the same subjects.*

# TGF-$\beta_1$,-$\beta_2$, -$\beta_3$ *Transforming Growth Factor-beta 1, -beta 2, -beta 3*

**Synonyms: TGF-$\beta_1$:** Differentiation inhibiting factor, Cartilage-inducing factor
**TGF-$\beta_2$:** Glioblastoma-derived T-cell suppressor factor, BSC-1, Cetermin, Polyergin
**TGF-$\beta_3$:** none

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human TGF-$\beta_1$ | 100-21 | *HEK293 cells* | 25.0 kDa | 2µg | 10µg | 1mg |
| Human TGF-$\beta_1$ | 100-21C | *CHO cells* | 25.0 kDa | 2µg | 10µg | 1mg |
| Human TGF-$\beta_2$ CARTAGENA | 100-35 | *Insect cells* | 25.0 kDa | 2µg | 10µg | 1mg |
| Human TGF-$\beta_2$ | 100-35B | *HEK293 cells* | 25.0 kDa | 2µg | 10µg | 1mg |
| Human TGF-$\beta_3$ | 100-36E | *E.coli* | 25.0 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human TGF-$\beta_1$ | AF-100-21C | *CHO cell* | 25.0 kDa | 2µg | 10µg | 1mg |
| Human TGF-$\beta_3$ | AF-100-36E | *E.coli* | 25.0 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

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## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-human TGF-$\beta_1$ | 500-M66 | *Mouse* | I, E, WB, NA | 500µg |

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# Thrombomodulin

**Synonyms:** CD141, BDCA-3, THBD, TM

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Thrombomodulin | 100-58 | *HEK293 cells* | 51.4 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

# Thymosin-β4

**Synonyms:** Tβ-4, Hematopoietic system regulatory peptide, Seraspenide, TMSB4X, TB4X, TMSB4

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Thymosin-β4 | 140-14 | *E.coli* | 5.2 kDa | 20µg | 100µg | 1mg |

*Additional sizes available please inquire*

# TIGAR *TP53-Induced Glycolysis and Apoptosis Regulator*

**Synonyms:** None

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human TIGAR | 150-14 | *E.coli* | 29.9 kDa | 5µg | 25µg | 1mg |
| Human TIGAR-TAT | 150-14T | *E.coli* | 31.6 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

# TIMP-1 *Tissue Inhibitor of Metalloproteinases 1*

**Synonyms:** Fibroblast collagenase inhibitor, Erythroid-potentiating activity

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human TIMP-1 | 410-01 | *E.coli* | 20.6 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human TIMP-1 | 500-P280 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human TIMP-1 | 500-P280Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP Conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

Human TIMP-1 **ABTS CATALOG #** 900-K438

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP Conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

Human TIMP-1 **ABTS CATALOG #** 900-M438

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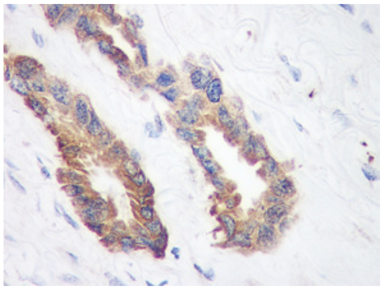
*Human breast invasive ductal carcinoma (FFPE) stained with Rabbit Anti-Human TIMP-1 at 0.1 µg/mL. Staining of tumor cells.*

*Tissue samples were provided by the Cooperative Human Tissue Network, which is funded by the National Cancer Institute. Other investigators may have received specimens from the same subjects.*



# TIMP-2 *Tissue Inhibitor of Metalloproteinases 2*

**Synonyms:** CSC-21K

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human TIMP-2 | 410-02 | *E.coli* | 21.8 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

# TL-1A

**Synonyms:** TNFSF15, VEGI

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human TL-1A | 310-23 | *E.coli* | 22.0 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human TL-1A | 500-P240 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human TL-1A | 500-P240Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP Conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human TL-1A | **ABTS CATALOG #** 900-K290 |

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP Conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Human TL-1A | **ABTS CATALOG #** 900-M290 |

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# TLR-3 *Toll-Like Receptor 3*

**Synonyms:** CD283 antigen

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human TLR-3 | 160-01 | *HEK293 cells* | 77.4 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

# TNF-α *Tumor Necrosis Factor-alpha*

**Synonyms:** TNFSF2, Cachectin, Differentiation-Inducing Factor (DIF), Necrosin, Cytotoxin

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human TNF-α | 300-01A | *E.coli* | 17.4 kDa | 10µg | 50µg | 1mg |
| Murine TNF-α | 315-01A | *E.coli* | 17.3 kDa | 5µg | 20µg | 1mg |
| Rat TNF-α | 400-14 | *E.coli* | 17.3 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human TNF-α | AF-300-01A | *E.coli* | 17.4 kDa | 10µg | 50µg | 1mg |
| Murine TNF-α | AF-315-01A | *E.coli* | 17.3 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human TNF-α | 500-P31A | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human TNF-α | 500-P31ABt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Human TNF-α | 500-P31AG | *Goat* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human TNF-α | 500-P31AGBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine TNF-α | 500-P64 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Murine TNF-α | 500-P64Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine TNF-α | 500-P64G | *Goat* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Murine TNF-α | 500-P64GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Rat TNF-α | 500-P72 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Rat TNF-α | 500-P72Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-Human TNF-α | 500-M26 | *Mouse* | I, E, WB, N | 500µg |

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and HRP Conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human TNF-α | **ABTS CATALOG #** 900-K25 |
| Human TNF-α | **TMB CATALOG #** 900-T54 |
| Murine TNF-α | **ABTS CATALOG #** 900-K54 |
| Murine TNF-α | **TMB CATALOG #** 900-T54 |
| Rat TNF-α | **ABTS CATALOG #** 900-K73 |

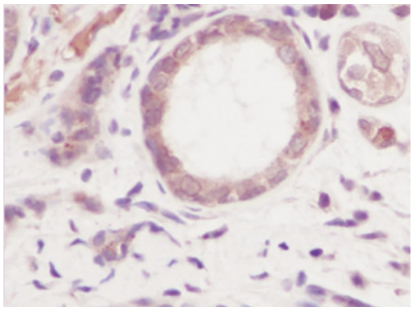
## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and HRP Conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Human TNF-α | **ABTS CATALOG #** 900-M25 |
| Human TNF-α | **TMB CATALOG #** 900-TM25 |
| Murine TNF-α | **ABTS CATALOG #** 900-M54 |
| Murine TNF-α | **TMB CATALOG #** 900-TM54 |
| Rat TNF-α | **ABTS CATALOG #** 900-M73 |

*See next page for IHC images of anti-human TNF-α*

# TNF-$\alpha$ *continued...*



*Human breast invasive ductal carcinoma (FFPE) stained with Rabbit Anti-Human TNF-α at 0.5 µg/ml. Tissue samples were provided by the Cooperative Human Tissue Network, which is funded by the NCI. Other investigators may have received specimens from the same subjects.*

# TNF-$\beta$ *Tumor Necrosis Factor-beta*

**Synonyms:** TNFSF1, TNFSF1B, Lymphotoxin-alpha (LT-α)

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human TNF-β | 300-01B | *E.coli* | 18.6 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human TNF-β | 500-P31B | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human TNF-β | 500-P31BBt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# sTNF Receptor Type I *soluble Tumor Necrosis Factor Receptor Type I*

**Synonyms:** TNFRSF1A, TNFAR, TNF-R55, TNFR60, p55, CD120a

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human sTNF Receptor Type I | 310-07 | *E.coli* | 18.3 kDa | 5µg | 20µg | 1mg |

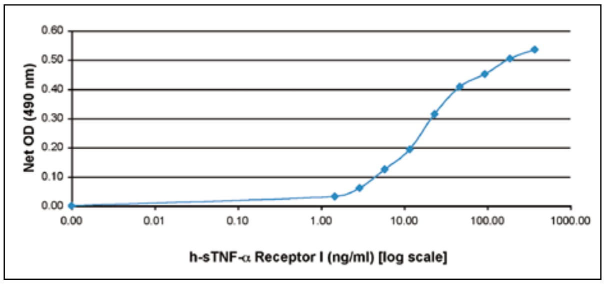
*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human sTNF Receptor Type I | 500-P143 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human sTNF Receptor Type I | 500-P143Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

*Bioassay analysis of Human sTNF Receptor Type I. Determined by its inhibitory effect for the TNF-α mediated cytotoxicity in murine L929 cells.*



# sTNF Receptor Type II *soluble Tumor Necrosis Factor Receptor Type II*

**Synonyms:** TNFRSF1B, p75, TNFR75, CD120b, TNFR80, p80, TNFR2

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human sTNF Receptor Type II | 310-12 | *E.coli* | 18.9 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human sTNF Receptor Type II | 500-P168 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human sTNF Receptor Type II | 500-P168Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# TPO *Thrombopoietin*

**Synonyms:** Megakaryocyte colony-stimulating factor, c-MPL ligand, MGDF

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human TPO | 300-18 | *E.coli* | 18.6 kDa | 2µg | 10µg | 1mg |
| Murine TPO | 315-14 | *E.coli* | 18.7 kDa | 2µg | 10µg | 1mg |
| Rat TPO | 400-34 | *E.coli* | 18.7 kDa | 2µg | 10µg | 1mg |

** See page 6 for available Cytokine Packages.* *Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human TPO | AF-300-18 | *E.coli* | 18.6 kDa | 2µg | 10µg | 1mg |
| Murine TPO | AF-315-14 | *E.coli* | 18.7 kDa | 2µg | 10µg | 1mg |
| Rat TPO | AF-400-34 | *E.coli* | 18.7 kDa | 2µg | 10µg | 1mg |

** See page 6 for available Cytokine Packages.* *Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human TPO | 500-P49G | *Goat* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human TPO | 500-P49GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP Conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

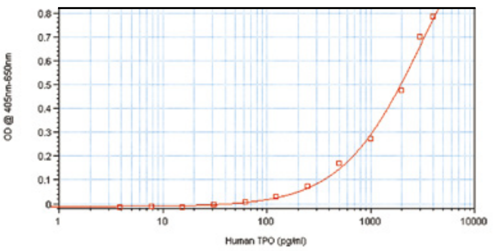
| | |
|---|---|
| Human TPO | **ABTS CATALOG #** 900-K44 |

## Mini ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP Conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Human TPO | **ABTS CATALOG #** 900-M44 |

*Standard curve using Human TPO ELISA Development Kit.*





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# sTRAIL/Apo2L *soluble TNF-Related Apoptosis-Inducing Ligand*

**Synonyms:** TNFSF10, Apo2 ligand, TL2

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human sTRAIL/Apo2L | 310-04 | *E.coli* | 19.6 kDa | 10µg | 50µg | 1mg |
| Murine TRAIL | 315-19 | *E.coli* | 20.0 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human sTRAIL/Apo2L | 500-P135 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human sTRAIL/Apo2L | 500-P135Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine TRAIL | 500-P303 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Murine TRAIL | 500-P303Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

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## Monoclonal Antibodies

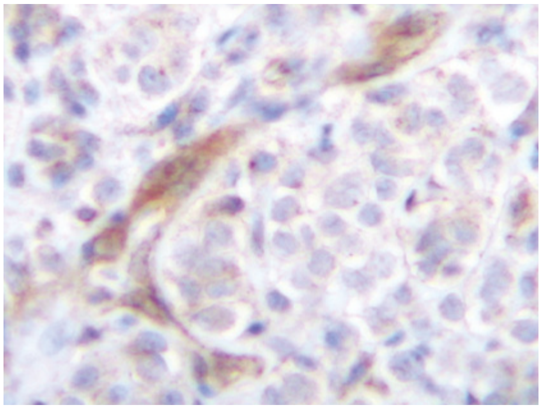
| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-human sTRAIL/Apo2L | 500-M49 | *Mouse* | I, E, WB, N | 500µg |

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP Conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human sTRAIL/Apo2L | **ABTS CATALOG #** 900-K141 |

*Human metastatic carcinoma of lymph node from breast tissue (FFPE) stained with Rabbit Anti-Human sTRAIL/Apo2L at 0.25 µg/ml. Tissue samples were provided by the Cooperative Human Tissue Network, which is funded by the NCI. Other investigators may have received specimens from the same subjects.*



# sTRAIL Receptor-1 *soluble TRAIL Receptor-1*

**Synonyms:** TNFRSF10A, DR4, Apo2

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human sTRAIL Receptor-1 | 310-18 | *E.coli* | 22.7 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*



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# sTRAIL Receptor-2 *soluble TRAIL Receptor-2*

**Synonyms:** TNFRSF10B, DR5, KILLER, TRICK2A, TRICK2B

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human sTRAIL Receptor-2 | 310-19 | *E.coli* | 14.9 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human sTRAIL Receptor-2 | 500-P299 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human sTRAIL Receptor-2 | 500-P299Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# TSG *Twisted Gastrulation Protein*

**Synonyms:** none

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human TSG | 120-09 | *E.coli* | 22.2 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*

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# TSLP *Thymic Stromal Lymphopoietin*

**Synonyms:** none

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human TSLP | 300-62 | *E.coli* | 15.0 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human TSLP | 500-P258 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human TSLP | 500-P258Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP Conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human TSLP | **ABTS CATALOG #** 900-K334 |

# TWEAK *TNF-related Weak Inducer of Apoptosis*

**Synonyms:** TNFSF12, DR3LG, Apo3 Ligand

### Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human TWEAK | 310-06 | *E.coli* | 17.0 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

### Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human TWEAK | AF-310-06 | *E.coli* | 17.0 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

### Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human TWEAK | 500-P137G | *Goat* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human TWEAK | 500-P137GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated **Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

T-U

### ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and Avidin-HRP Conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human TWEAK | **ABTS CATALOG #** 900-K149 |

# TWEAK Receptor *TNF-related Weak Inducer of Apoptosis Receptor*

**Synonyms:** TNFRSF12A, FGF-inducible 14

### Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human TWEAK Receptor | 310-21 | *E.coli* | 5.6 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

# Uteroglobin

**Synonyms:** Clara Cell Phospholipid-Binding Protein, CCPBP, Clara Cells 10 kDa secretory protein, CC10, Secretoglobin family 1A member 1, Urinary protein 1, UP-1, UP, Urine protein 1

### Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Uteroglobin | 150-18 | *E.coli* | 16.1 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*


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# VAP-1 *Vascular Adhesion Protein-1*

**Synonyms:** AOC3, SSAO, HPAO, Copper Amine Oxidase, Membrane Primary Amine Oxidase

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human VAP-1 | 150-16 | *CHO cells* | 81.8 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

# Vaspin

**Synonyms:** Visceral adipose tissue-derived serpin

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Vaspin | 130-11 | *E.coli* | 45.2 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

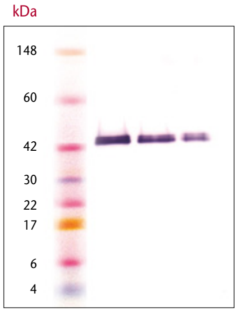
## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human Vaspin | 500-P256 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human Vaspin | 500-P256Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

*Representative Western Transfer (blot) analysis of Human Vaspin using Anti-Human Vaspin at 0.20 µg/ml.*




# VCAM-1

**Synonyms:** CD106, INCAM-100, MGC108734, MGC99561, VCAM, VCAM1, VCAM1B, VECAM1

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human VCAM-1 | 150-04 | *HEK293 cells* | 74.1 kDa | 10µg | 50µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human VCAM-1 | 500-P300 | *Rabbit* | E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human VCAM-1 | 500-P300Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# VEGF *Vascular Endothelial Growth Factor*

**Synonyms:** **VEGF$_{121}$:** Vascular Endothelial Growth Factor121, VPF; **VEGF$_{165}$:** Vascular Endothelial Growth Factor165, VPF, Folliculostellate cell-derived growth factor, Glioma-derived endothelial cell mitogen

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human VEGF$_{121}$ | 100-20A | *E.coli* | 28.4 kDa | 2µg | 10µg | 1mg |
| Human VEGF$_{165}$ | 100-20 | *E.coli* | 38.2 kDa | 2µg | 10µg | 1mg |
| Murine VEGF$_{165}$ | 450-32 | *E.coli* | 39.0 kDa | 2µg | 10µg | 1mg |
| Rat VEGF$_{165}$ | 400-31 | *E.coli* | 38.5 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human VEGF$_{121}$ | AF-100-20A | *E.coli* | 28.4 kDa | 2µg | 10µg | 1mg |
| Human VEGF$_{165}$ | AF-100-20 | *E.coli* | 38.2 kDa | 2µg | 10µg | 1mg |
| Murine VEGF$_{165}$ | AF-450-32 | *E.coli* | 39.0 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

V

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human VEGF | 500-P10 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human VEGF | 500-P10Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Human VEGF | 500-P10G | *Goat* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Human VEGF | 500-P10GBt | *Goat* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Murine VEGF | 500-P131 | *Rabbit* | I, E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Murine VEGF | 500-P131Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |
| Anti-Rat VEGF | 500-P275 | *Rabbit* | E, WB, N | 50µg | 100µg | 1mg |
| Biot. Anti-Rat VEGF | 500-P275Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

## Monoclonal Antibodies

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size |
|---|---|---|---|---|
| Anti-Human VEGF | 500-M88 | *Mouse* | E, WB, N | 500µg |

## ELISA Development Kit

Each kit contains: capture antibody, detection antibody, calibrated standard, and HRP Conjugate, sufficient to assay the target cytokine in at least 1000 ELISA plate wells.

| | |
|---|---|
| Human VEGF | **ABTS CATALOG #** 900-K10 |
| Human VEGF | **TMB CATALOG #** 900-T10 |
| Murine VEGF | **ABTS CATALOG #** 900-K99 |
| Rat VEGF | **ABTS CATALOG #** 900-K436 |

## Mini ELISA Development Kit

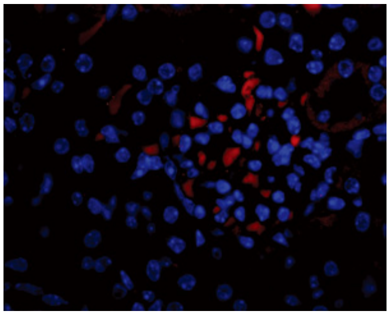
Each kit contains: capture antibody, detection antibody, calibrated standard, and HRP Conjugate, sufficient to assay the target cytokine in at least 200 ELISA plate wells.

| | |
|---|---|
| Human VEGF | **ABTS CATALOG #** 900-M10 |
| Human VEGF | **TMB CATALOG #** 900-TM10 |
| Murine VEGF | **ABTS CATALOG #** 900-M99 |
| Rat VEGF | **ABTS CATALOG #** 900-M436 |

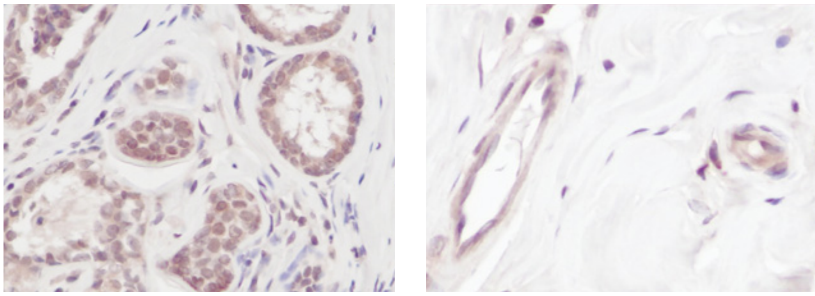
*See next page for IHC images of anti-human VEGF*

# VEGF *continued…*

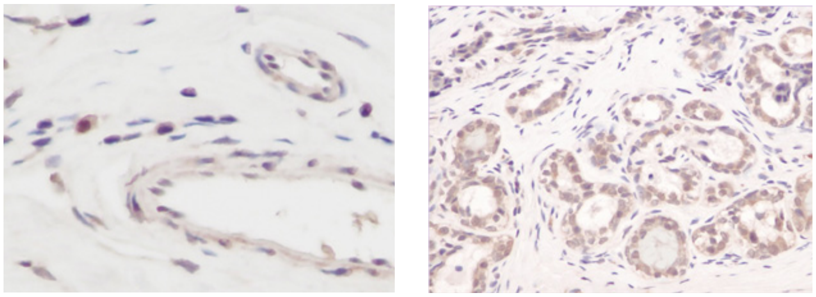
*Mouse kidney (FFPE) stained with Rabbit Anti-Murine VEGF at 2.5 μg/mL.*



*Human breast invasive ductal carcinoma (FFPE) stained with Rabbit Anti-Human VEGF at 4.0 μg/ml and Goat Anti-Human VEGF at 10 μg/ml.*
*Tissue samples were provided by the Cooperative Human Tissue Network, which is funded by the NCI. Other investigators may have received specimens from the same subjects.*



*Rabbit anti-human VEGF*



*Goat anti-human VEGF*



# VEGF-B *Vascular Endothelial Growth Factor-B*

**Synonyms:** VEGF-related factor, VRF

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human VEGF-B | 100-20B | *E.coli* | 38.0 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

# VEGF-C *Vascular Endothelial Growth Factor-C*

**Synonyms:** VRP, Flt4 ligand

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human VEGF-C | 100-20C | *HEK293 cells* | 26.2 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

# VEGF-D *Vascular Endothelial Growth Factor-D*

**Synonyms:** FIGF

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human VEGF-D | 100-20D | *HEK293 cells* | 26.2 kDa | 2µg | 10µg | 1mg |

*Additional sizes available please inquire*

# Vimentin

**Synonyms:** Vim

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Vimentin | 110-10 | *E.coli* | 54.3 kDa | 20µg | 100µg | 1mg |

*Additional sizes available please inquire*

V

# Visfatin

**Synonyms:** PBEF (Pre-B-cell colony-enhancing factor)

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Visfatin | 130-09 | *E.coli* | 52.6 kDa | 5µg | 25µg | 1mg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human Visfatin | 500-P222 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human Visfatin | 500-P222Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

# Vitronectin

**Synonyms:** VTN, Serum-spreading factor, V75

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Vitronectin | 140-09 | *HEK293 cells* | 52.2 kDa | 100µg | 500µg | 1mg |

*Additional sizes available please inquire*

## Animal-Free Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human Vitronectin | AF-140-09 | *HEK293 cells* | 52.2 kDa | 100µg | 500µg | 1mg |

*Additional sizes available please inquire*



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# WISP-1 *WNT-1 Inducible Signaling Pathway protein-1*

**Synonyms:** CCN4, Wnt-1-induced secreted protein

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human WISP-1 | 120-18 | *E.coli* | 38.1 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*

# WISP-3 *WNT-1 Inducible Signaling Pathway protein-3*

**Synonyms:** CCN6

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human WISP-3 | 120-20 | *E.coli* | 36.8 kDa | 5µg | 20µg | 1mg |

*Additional sizes available please inquire*



# WNT-1

**Synonyms:** INT-1, Wnt-1 proto-oncogene protein (precursor)

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B | |
|---|---|---|---|---|---|---|
| Human WNT-1 | 120-17 | *E.coli* | 38.4 kDa | 2µg | 10µg | 1mg |

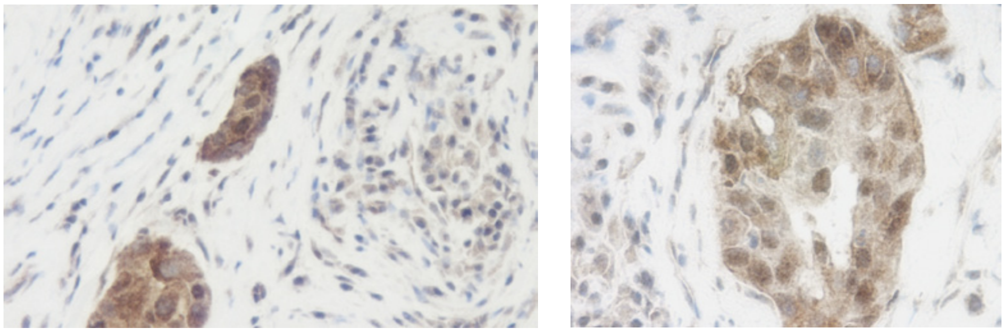
*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human WNT-1 | 500-P250 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human WNT-1 | 500-P250bBt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested



*Human breast invasive ductal carcinoma (FFPE) stained with Rabbit Anti-Human WNT-1 at 62.5ng/mL. Staining of ductal carcinoma cells. Tissue samples were provided by the Cooperative Human Tissue Network, which is funded by the National Cancer Institute. Other investigators may have received specimens from the same subjects. Photograph provided by Patsy Ruegg for PeproTech.*

# WNT-3a

**Synonyms:** Wingless-type MMTV (Mouse Mammary Tumor Virus) integration site family member 3a

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B |
|---|---|---|---|---|---|
| Murine WNT-3a | 315-20 | *cell culture* | 37.4 kDa | 2µg | 10µg |

*Additional sizes available please inquire*

## Polyclonal Antibodies - Antigen Affinity Purified

| PRODUCT | CATALOG # | SOURCE | APPLICATIONS | Size A | Size B | |
|---|---|---|---|---|---|---|
| Anti-Human Wnt-3a | 500-P251 | *Rabbit* | I, E, WB, NA | 50µg | 100µg | 1mg |
| Biot. Anti-Human Wnt-3a | 500-P251Bt | *Rabbit* | E, WB, NA | 25µg | 50µg | 1mg |

Biot. = Biotinylated

**Key:** I = IHC, E = ELISA, WB = Western blot, N = Neutralization, NA = Neutralization not tested

# WNT-7a

**Synonyms:** none

## Recombinant Proteins

| PRODUCT | CATALOG # | SOURCE | MW | Size A | Size B |
|---|---|---|---|---|---|
| Human WNT-7a | 120-31 | *HEK293 cells* | 35.5 kDa | 3µg | 15µg |

*Additional sizes available please inquire*

# コントロール抗体

| PRODUCT | CATALOG # | Size |
|---|---|---|
| Normal Goat IgG | 500-G00 | 1mg |
| Normal Mouse IgG | 500-M00 | 250µg |
| Normal Rabbit IgG | 500-P00 | 500µg |

# ケモカイン命名法

| Systematic Name<br>CXC Chemokines | Functional Name(s)<br>(mouse protein) | Responding Cell Type(s)<br>(mouse protein) | Known Receptor(s) |
|---|---|---|---|
| **CXC Chemokines** | | | |
| CXCL1 | GRO1, GRO-α, MGSA, NAP-3 (KC) | PMN | CXCR1, CXCR2 |
| CXCL2 | GRO2, GRO-β, MIP2-α (MIP-2) | PMN | CXCR1, CXCR2 |
| CXCL3 | GRO3, GRO-γ, MIP2-β (DCIP-1) | PMN | CXCR2 |
| CXCL4 | PF-4, Oncostatin-A | PMN, Mo | CXCR3B |
| CXCL5 | ENA-78 | PMN | CXCR2 |
| CXCL6 | GCP-2, CKA-3 (LIX) | PMN | CXCR1, CXCR2 |
| CXCL7 | NAP-2, PBP, LDGF, MDGF | PMN | CXCR1, CXCR2 |
| CXCL8 | IL-8, GCP-1, NAP-1 | PMN, Bs | CXCR1, CXCR2 |
| CXCL9 | MIG | actT [Th1], NK | CXCR3 |
| CXCL10 | IP-10 (CRG-2) | Mo, actT [Th1], NK | CXCR3 |
| CXCL11 | I-TAC, IP-9 | actT [Th1], NK | CXCR3, CXCR7 |
| CXCL12 | SDF-1, SDF-1α/β, PBSF | All cell types | CXCR4, CXCR7 |
| CXCL13 | BCA-1, BLC | B, (Mo) | CXCR5 |
| CXCL14 | BRAK, MIP-2G | PMN, mDC (B, Mo) | unknown |
| CXCL15 | (Lungkine) | PMN | unknown |
| CXCL16 | SR-PSOX | actT | CXCR6 |
| CXCL17 | VEGF co-regulated chemokine 1, DMC | Mo, iDC | unknown |
| **C Chemokines** | | | |
| XCL1 | Lymphotactin, ATAC, SCM-1 | Tr | XCR1 |
| XCL2 | SCM-1β | Tr | XCR1 |
| **CX3C Chemokines** | | | |
| CX3CL1 | Fractalkine, Neurotactin, CX3C | Mo, actT, NK | CX3CR1 |
| **CC Chemokines** | | | |
| CCL1 | I-309 (TCA-3) | iDC, actT [Th2], Mo (PMN) | CCR8 |
| CCL2 | MCP-1, MCAF, JE | Bs, Mo, actT, NK, iDC | CCR2, CCR4 |
| CCL3 | MIP-1α, LD78α | Eo, Mo, actT, NK, iDC (PMN) | CCR1, CCR4, CCR5 |
| CCL3L1 | LD78β | Mo, actT, B | CCR1, CCR3, CCR5 |
| CCL4 | MIP-1β, LAG-1 | Mo, actT [Th1], NK, iDC | CCR5 |
| CCL4L1 | LAG-1 gene duplication | Mo | CCR1, CCR5 |
| CCL5 | RANTES | Eo, Bs, Mo, actT, NK, iDC, Tm | CCR1, CCR3, CCR4, CCR5 |
| CCL6 | (C-10) | Mo | CCR1 |
| CCL7 | MCP-3 (FIC) | Eo, Bs, Mo, actT, NK, iDC | CCR1, CCR2, CCR3 |
| CCL8 | MCP-2 | Eo, Bs, Mo, actT, NK, iDC | CCR1, CCR2B, CCR3, CCR5 |
| CCL9/10 | (MIP-1γ, MRP-2) | PMN, actT | CCR1 |
| CCL11 | Eotaxin | Eo, Bs, actT [Th2], iDC | CCR3 |
| CCL12 | (MCP-5) | Eo, Bs, Mo, actT, NK, iDC | CCR2 |
| CCL13 | MCP-4, CKβ-10 | Eo, Bs, Mo, actT, NK, iDC | CCR1, CCR2, CCR3 |
| CCL14 | HCC-1 | Eo, Mo, T | CCR1, CCR3, CCR5 |
| CCL15 | MIP-5, MIP-1δ, HCC-2, LKN-1 | Mo, T | CCR1, CCR3 |
| CCL16 | LEC, HCC-4 | Mo, actT [Th1] | CCR1 |
| CCL17 | TARC (ABCD-2) | actT [Th2] | CCR4 |
| CCL18 | MIP-4, DC-CK1, PARC, AMAC-1 | Tr, iDC | unknown |
| CCL19 | MIP-3β, ELC, Exodus-3, CKβ-11 | Tr, actT, mDC | CCR7 |
| CCL20 | MIP-3α, LARC, Exodus-1 | Tm, B, iDC, PMN | CCR6 |
| CCL21 | Exodus-2, 6Ckine, SLC | Tr, actT, mDC | CCR7 |
| CCL22 | MDC, STCP-1 (ABCD-1) | Mo, actT [Th2], NK, iDC | CCR4 |
| CCL23 | MIP-3, MPIF-1, CKβ-8 | PMN, Mo, Tr | CCR1 |
| CCL24 | Eotaxin-2, MPIF-2, CKβ-6 | Eo, Bs, actT [Th2], iDc, PMN, Tr | CCR3 |
| CCL25 | TECK | Thymocytes, Tr, iDC | CCR9 |
| CCL26 | MIP-4α, Eotaxin-3 | Eo, Bs, actT [Th2], iDC | CCR3 |
| CCL27 | CTACK, ILC, Eskine | actT | CCR10 |
| CCL28 | MEC | actT, Tr, Eo | CCR3, CCR10 |

**KEY**

| | |
|---|---|
| Tm | = memory T cells |
| B | = B-cells |
| actT | = activated T cell |
| Bs | = Basophil |
| Tr | = resting T cell |
| T | = T cells |
| Eo | = Eosinophil |
| NK | = Natural Killer cells |
| Mo | = monocyte |
| PMN | = neutrophils |
| mDC | = mature dendritic cells |
| iDC | = immature dendritic cells |

# FGF ファミリー

| Fibroblast Growth Factors | MW-Secreted form (murine) | Estimated *pI* (murine) | Target Cells (Partial list) | Receptors | Functions (Partial list) |
|---|---|---|---|---|---|
| **FGF1 (Acidic FGF)**<br>Heparin-binding growth factor-1 (HBGF-1)<br>ECGF-beta (endothelial cell growth factor-beta) | 15.8 kDa<br>(15.7 kDa) | 7.99<br>(7.88) | mesenchymal,<br>neuroectodermal<br>endothelial cells | all FGF receptors | Angiogenic *in vivo*, mitogenic in *in vitro*, wound healing |
| **FGF2 (Basic FGF)**<br>Heparin-binding growth factor-2 (HBGF-2)<br>Prostatropin | 17.2 kDa<br>(17.1 kDa) | 10.03<br>(9.59) | mesenchymal,<br>neuroectodermal<br>endothelial cells | 1b, 1c, 2c, 3c, 4 | Vasculogenesis, wound healing, angiogenesis, hematopoiesis, neuron survival |
| **FGF3**<br>int-2 | 24.9 kDa<br>(25.2 kDa) | 10.98<br>(10.84) | epithelial cells that express FGF receptor 2b | 2b | Mesoderm induction, angiogenesis, inner ear development |
| **FGF4**<br>Heparin secretory transforming protein (HST-1)<br>Transforming protein KS3<br>Heparin-binding growth factor-4 (HBGF-4) | 19.7 kDa<br>(18.9 kDa) | 10.22<br>(10.24) | cells that express FGF receptors | 1c, 2c, 3c, 4 | Angiogenesis, vertebrate limb development and development of stomach cancer |
| **FGF5**<br>Heparin-binding growth factor-5 (HBGF-5)<br>Smag-82 | 27.6 kDa<br>(27.1 kDa) | 11.1<br>(10.50) | cells that express FGF receptors | 1c, 2c | Hair growth and development |
| **FGF6**<br>Heparin-binding growth factor-6 (HBGF-6)<br>HST-2 | 18.7 kDa<br>(18.9 kDa) | 10.09<br>(9.80) | cells that express FGF receptors | 1c, 2c, 4 | Skeletal muscle development |
| **FGF7/KGF** (Keratinocyte Growth Factor)<br>Heparin-binding growth factor-7 (HBGF-7) | 18.9 kDa<br>(18.8 kDa) | 9.55<br>(9.22) | keratinocytes and epithelial cells that express FGF receptor 2b | 2b | Keratinocyte growth factor, kidney and lung development, angiogenesis and wound healing |
| **FGF8**<br>Androgen-induced growth factor (AIGF)<br>Heparin-binding growth factor-8 (HBGF-8) | 22.4 kDa<br>(28.0 kDa) | 10.95<br>(10.46) | mammary carinoma cells and other cells that express FGF receptors | 2c, 3c, 4<br>(possibly 1c) | Limb, central nervous system, cardiac outflow tract development |
| **FGF9**<br>Glia activating factor (GAF)<br>Heparin-binding growth factor-9 (HBGF-9) | 23.4 kDa<br>(23.3 kDa) | 7.44<br>(7.44) | glial cells, astrocyte cells and other cells that express FGF receptors | 1c, 2c, 3b, 3c, 4 | Glia-activating factor, motor neuron survival, lung and testes development |
| **FGF10**<br>FGFA<br>Keratinocyte growth factor 2 | 19.3 kDa<br>(19.5 kDa) | 10.49<br>(9.76) | epithelial cells that express FGF receptor 2b | 2b | Wound healing, multi-organ including limb and lung development |
| **FGF11**<br>FGFB<br>Fibroblast growth factor homologous factor-3 (FHF-3) | 25.0 kDa<br>(25.1 kDa) | 9.92<br>(10.06) | nuclear processes unrelated to the secreted FGFs | none | Appears to be involved in nervous system development and function |
| **FGF12**<br>FGFC<br>Fibroblast growth factor homologous factor-1 (FHF-1) | 27.4 kDa<br>(27.3 kDa) | 9.98<br>(9.98) | nuclear processes unrelated to the secreted FGFs | none | Appears to be involved in nervous system development and function |
| **FGF13**<br>FGFD<br>Fibroblast growth factor homologous factor-2 (FHF-2) | 27.5 kDa<br>(27.6 kDa) | 9.92<br>(9.92) | nuclear processes unrelated to the secreted FGFs | none | Appears to be involved in nervous system development and function |
| **FGF14**<br>FGFE<br>Fibroblast growth factor homologous factor-4 (FHF-4) | 27.7 kDa<br>(27.7 kDa) | 10.11<br>(10.11) | nuclear processes unrelated to the secreted FGFs | none | Regulates central nervous system development and function |
| **FGF15**<br>FGFF, identified in mouse not human | (22.5 kDa) | (5.76) | cells that express FGF receptor 4 | 4 | Regulator of cell division and patterning in specific regions of embryonic brain, spinal cord and sensory organs |
| **FGF16**<br>FGFG | 23.7 kDa<br>(23.7 kDa) | 9.52<br>(9.36) | cells that express FGF receptors | 2c, 3c | Central nervous system development |
| **FGF17**<br>FGFH | 22.7 kDa<br>(22.5 kDa) | 11.22<br>(10.71) | cells that express FGF receptors | 1c, 2c, 3c, 4 | Signals induction and patterning of embryonic brain |
| **FGF18**<br>zFGF5<br>FGFI | 20.1 kDa<br>(20.9 kDa) | 10.67<br>(10.09) | cells that express FGF receptors | 1c, 2c, 3c, 4 | An essential regulator of long bone and calvarial development |
| **FGF19**<br>FGFJ, identified in human not mouse | 21.8 kDa | 6.32 | cells that express FGF receptor 4 | 4 | Expressed during brain development and during embryogenesis, regulates multiple metabolic processes in adulthood |
| **FGF20**<br>FGFK | 23.2 kDa<br>(23.6 kDa) | 9.22<br>(8.54) | epithelial and mesenchymal cells | 1c, 2c, 3c | Expressed during limb and brain development |
| **FGF21**<br>FGFL | 19.4 kDa<br>(19.9 kDa) | 5.29<br>(4.59) | unknown at the time of printing | unknown at the time of printing | Expressed in liver and thymus, may play a role in Type 2 Diabetes |
| **FGF22**<br>FGFM | 17.1 kDa<br>(16.5 kDa) | 11.71<br>(11.58) | hair follicle-keratinocytes | unknown at the time of printing | May be involved in cutaneous development and repair, and hair development |
| **FGF23**<br>FGFN | 25.3 kDa<br>(25.3 kDa) | 8.95<br>(9.64) | renal proxima epithelial cells | 3c | Expressed in brain and thymus, regulates phosphate homeostasis, mutant in hypophos phatemic rickets, regulates multiple metabolic processes in adulthood |

# TNF 命名法

## TNF スーパーファミリー – リガンド

| Nomenclature Name | Functional Names |
|---|---|
| TNFSF1 | TNF-β, Lymphotoxin-α (LT-α), TNFSF1A |
| TNFSF2 | TNF-α, Cachectin, DIF, TNFSF1B |
| TNFSF3 | Lymphotoxin-β (LT-β), TNF-C |
| TNFSF4 | OX40 Ligand (OX40L), Gp34, TXGP1, CD252 |
| TNFSF5 | CD40 Ligand (CD40L), TRAP, Gp39, CD154 |
| TNFSF6 | Fas Ligand (FasL), APTL, APT1LG1, CD95L, CD178 |
| TNFSF7 | CD70, CD27 Ligand (CD27L, CD27LG) |
| TNFSF8 | CD30 Ligand (CD30L, CD30LG), CD153 |
| TNFSF9 | 4-1BB Ligand (4-1BBL) |
| TNFSF10 | TRAIL, Apo-2 Ligand (Apo2L), CD253 |
| TNFSF11 | RANK Ligand (RANKL), TRANCE, OPGL, ODF, CD254 |
| TNFSF12 | TWEAK, Apo-3 Ligand (Apo3L) |
| TNFSF13 | APRIL, TALL-2, TRDL-1, CD256 |
| TNFSF13B | BAFF, BLyS, TALL-1, CD257, TNFSF20 |
| TNFSF14 | LIGHT, HVEM-Ligand (HVEM-L), CD258 |
| TNFSF15 | TL1A, TL1, VEGI |
| TNFSF18 | AITR Ligand (AITRL), TL6, GITR Ligand (GITRL) |

## TNF スーパーファミリー – 受容体

| Nomenclature Name | Functional Names |
|---|---|
| TNFRSF1A | TNF Receptor Type I (TNFR1), CD120a, p55, p60 |
| TNFRSF1B | TNF Receptor Type II (TNFR2), CD120b, p75, TNFR80 |
| TNFRSF3 | TNF Receptor Type III (TNFR3), Lymphotoxin-β Receptor, TNFR2-RP, TNFCR |
| TNFRSF4 | OX40L Receptor, ACT35, TXGP1R, CD134 |
| TNFRSF5 | Bp50, CD40L Receptor, CDw40, CD40 |
| TNFRSF6 | FASLG Receptor, CD95, Apo-1 |
| TNFRSF6B | DcR3, M68 |
| TNFRSF7 | CD27, CD27L Receptor, T14 |
| TNFRSF8 | CD30, CD30L Receptor, Ki-1 |
| TNFRSF9 | 4-1BBL Receptor, CDw137, CD137, ILA |
| TNFRSF10A | DR4, Apo2, TRAIL Receptor 1 (TRAILR1), CD261 |
| TNFRSF10B | DR5, TRAIL Receptor 2 (TRAILR2), CD262 |
| TNFRSF10C | DcR1, TRAIL Receptor 3 (TRAILR3), CD263 |
| TNFRSF10D | DcR2, TRAIL Receptor 4 (TRAILR4), CD264 |
| TNFRSF11A | RANK Receptor (RANKR), ODFR, CD265 |
| TNFRSF11B | Osteoprotegerin (OPG), OCIF |
| TNFRSF12 | DR3, TNFRSF25, Apo3, AIR, TRAMP, LARD, WSL, WSL-1 |
| TNFRSF13B | TACI, CD267 |
| TNFRSF13C | BAFF Receptor (BAFFR), CD268 |
| TNFRSF14 | HVEM, TR2, HveA, CD270 |
| TNFRSF16 | NGF Receptor (NGFR), Gp80-LNGFR, p75NTR, p75 ICD, CD271 |
| TNFRSF17 | BCMA, CD269 |
| TNFRSF18 | AITR, GITR, CD357 |
| TNFRSF19 | TRADE |
| TNFRSF19L | RELT |
| TNFRSF21 | DR6, CD358 |
| TNFRSF22 | SOBa, TNFRH2 |
| TNFRSF23 | SOB, TNFRH1 |

# TGF-β スーパーファミリー

INFORMATION & TECHNICAL SUPPORT

| Name | Synonyms | Main Function | Natural Antagonists/ Binding Proteins |
|---|---|---|---|
| **TGF-$\beta_1$** | Differentiation inhibiting factor, cartilage-inducing factor | Regulates cell proliferation, growth, differentiation and motility. Involved in adipogenesis, chondrogenesis, embryogenesis, tissue remodeling, wound healing and tumor formation. | Follistatin, Follistatin-like related gene (FLRG), Decorin, alpha-2 macroglobulin |
| **TGF-$\beta_2$** | Glioblastoma-derived T-cell suppressor factor, BSC-1, Cetermin, Polyergin | Regulates cell proliferation, growth, differentiation and motility. Involved in adipogenesis, chondrogenesis, embryogenesis, tissue remodeling, wound healing and tumor formation. | Decorin, alpha-2 macroglobulin |
| **TGF-$\beta_3$** | None | Regulates cell proliferation, growth, differentiation and motility. Involved in adipogenesis, chondrogenesis, embryogenesis, tissue remodeling, wound healing and tumor formation. | |
| **TGF-$\beta_4$** | Endometrial bleeding associated factor beta-4, (EBAF) Lefty preproprotein, LEFTA | Essential for left-right (L-R) asymmetry determination of organ systems. Possible role in endometrial bleeding. | |
| **Inhibin A** | Inhibin alpha & beta A | Inhibits secretion of follitropin by the pituitary gland, regulates embryogenesis, osteogenesis, hematopoiesis, reproductive physiology and hormone secretion from the hypothalamic, pituitary and gonadal glands. | |
| **Inhibin B** | Inhibin alpha & beta B | Inhibits secretion of follitropin by the pituitary gland, regulates embryogenesis, osteogenesis, hematopoiesis, reproductive physiology and hormone secretion from the hypothalamic, pituitary and gonadal glands. | |
| **Activin A** | Activin beta-A, Inhibin beta-1, FRP, (Follicle-stimulating hormone-releasing protein), FSH-releasing protein, FSH-releasing factor, EDF (Erythroid differentiation factor) | Regulates embryogenesis, osteogenesis, hematopoiesis, reproductive physiology and hormone secretion from the hypothalamic, pituitary and gonadal glands. | Follistatin, Follistatin-like related gene (FLRG), GASP-1, Cerberus, alpha2 macroglobulin, DAN |
| **Activin AB** | Activin beta A & beta B | Regulates embryogenesis, osteogenesis, hematopoiesis, reproductive physiology and hormone secretion from the hypothalamic, pituitary and gonadal glands. | |
| **Activin B** | Activin beta-B, Inhibin beta-2 | Regulates embryogenesis, osteogenesis, hematopoiesis, reproductive physiology and hormone secretion from the hypothalamic, pituitary and gonadal glands. | |
| **Activin C** | Activin beta-C, Inhibin beta-C, blastocyst B1 | Regulates embryogenesis, osteogenesis, hematopoiesis, reproductive physiology and hormone secretion from the hypothalamic, pituitary and gonadal glands. | |
| **Activin E** | Activin beta-E, Inhibin beta-E | Regulates embryogenesis, osteogenesis, hematopoiesis, reproductive physiology and hormone secretion from the hypothalamic, pituitary and gonadal glands. | |
| **BMP-2** | BMP-2A | Induces cartilage and bone formation, plays a role in cardiac morphogenesis. | Noggin, Chordin, Follistatin, Follistatin-like related gene (FLRG), DAN, Cerberus, Gremlin |
| **BMP-3** | Osteogenin | Induces cartilage and bone formation. | |
| **BMP-3B** | GDF-10 | Biological function unknown, but may play a role in differentiation of osteoblasts, augmenting BMP-2 activity. | |
| **BMP-4** | BMP2B (BMP2B1, BMP2B2, Bmp2-rs1) | Induces cartilage and bone formation, involved in mesoderm induction, tooth development, limb formation and fracture repair. | Noggin, Chordin, Chordin-like/ Neuralin/Ventroptin, Follistatin, DAN, Cerberus, Gremlin |
| **BMP-5** | None | Induces cartilage and bone formation. | Noggin, Chordin-like/Neuralin/ Ventroptin, Sclerostin/SOST |
| **BMP-6** | Vgr-1, Vg-1-related protein | Induces cartilage and bone formation. | Noggin, Chordin-like/ Neuralin/Ventroptin, Follistatin, Follistatin-like related gene, Sclerostin/SOST |
| **BMP-7** | OP-1 (Osteogenic protein-1) | Induces cartilage and bone formation, involved in calcium regulation and bone homeostasis. May act as an osteoinductive factor responsible for epithelial osteogenesis. | Noggin, Chordin, Follistatin-like related gene (FLRG), DAN, Cerberus, Sclerostin/SOST |
| **BMP-8** | BMP-8a, OP-2 (Osteogenic protein-2) | Induces cartilage and bone formation, involved in calcium regulation and bone homeostasis. May act as an osteoinductive factor responsible for epithelial osteogenesis. | |
| **BMP-8b** | None | Stimulates cartilage and bone formation, implicated in calcium regulation and bone homeostasis. | |
| **BMP-9** | GDF-2 | May be involved in bone formation, regulates blood glucose homeostasis, potential autocrine/paracrine mediator in the hepatic reticuloendothelial system, involved in chondrogenesis. | |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| Name | Synonyms | Main Function | Natural Antagonists/ Binding Proteins |
|---|---|---|---|
| **BMP-10** | None | Plays a crucial role in trabeculation of the embryonic heart. | |
| **BMP-11** | GDF-11 | Involved in the patterning of both mesodermal and neural tissues and in establishing the skeletal muscle. Acts globally to specific positional identity along the anterior/posterior axis. | Follistatin, Follistatin-like related gene (FLRG), GASP-1 |
| **BMP-12** | GDF-7, CDMP-3 | Induces the formation of tendon and ligament tissues. | |
| **BMP-13** | GDF-6, CDMP-2 | Plays a role in cartilage homeostasis, involved in embryonic skeletal development, and formation of a tendon-like tissue. | Noggin |
| **BMP-14** | GDF-5, CDMP-1 | Essential for limb cartilage and limb-joint formation in developing mice. Involved in embryonic skeletal development. | Noggin, DAN |
| **BMP-15** | GDF-9B | An oocyte-specific factor that regulates granulosa cell proliferation and differentiation, and is essential for normal follicular growth. | |
| **GDF-1** | Embryonic growth/ differentiation factor | May be involved in mediating cell differentiation events during embryonic development. | |
| **GDF-2** | BMP-9 | Implicated in bone formation. | |
| **GDF-3** | Vgr-2 | Embryonal carcinoma stem cell-associated marker *in vitro* and *in vivo*. | |
| **GDF-5** | CDMP-1, BMP-14 | Essential for limb cartilage and limb-joint formation in developing mice. Involved in embryonic skeletal development. | Noggin, DAN |
| **GDF-6** | BMP-13, CDMP-2, dynamo (zebrafish) | Formation of a tendon-like tissue. Plays a role in cartilage homeostasis, and embryonic skeletal development. | Noggin |
| **GDF-7** | BMP-12, CDMP-3, prostate differentiation factor, MIC-1, PLAB | Induces the formation of tendon and ligament tissues. | |
| **GDF-8** | Myostatin (MSTN) | Regulates skeletal muscle mass. | Follistatin, Follistatin-like related gene (FLRG), GASP-1 |
| **GDF-9** | None | Essential for normal follicular growth. | |
| **GDF-10** | BMP-3B, BIP (Bone Inducing Protein) | Biological function unknown, but may play a role in differentiation of osteoblasts, augmenting BMP-2 activity. | |
| **GDF-11** | BMP-11 | Involved in the patterning of both mesodermal and neural tissues and in establishing the skeletal muscle. Acts globally to specific positional identity along the anterior/posterior axis. | Follistatin, Follistatin-like related gene (FLRG), GASP-1 |
| **GDF-15** | PLAB, placental bone protein, prostate differentiation factor, NRG1, MIC-1 (Macrophage Inhibiting Cytokine-1) | Possible mediator of placental control of embryonic development, may act as an autocrine regulatory molecule. | |
| **GDNF** | ATF (Astrocyte derived neurotrophic factor) | Promotes dopamine uptake and survival and morphological differentiation of midbrain neurons. | |
| **Artemin** | ARTN | Supports the survival of all peripheral ganglia such as sympathetic, neural crest and placodally-derived sensory neurons, and dopaminergic midbrain neurons. | |
| **Neurturin** | NTN, NRTN | Promotes the development and survival of sympathetic and sensory neurons. | |
| **Persephin** | PSP, PSPN | Promotes the survival of ventral midbrain dopaminergic neurons and motor neurons, and promotes ureteric bud branching. | |
| **LEFTY-1** | LEFTYB, Protein Lefty B | Essential for left-right asymmetry of organ systems. | |
| **LEFTY-2** | LEFTYA, TGF-$\beta_4$, Protein Lefty A | Essential for left-right asymmetry of organ systems. | |
| **AMH** | MIS, Muellerian inhibiting substance | Causes regression of the Muellerian duct, inhibits the growth of tumors derived from tissues of Muellerian duct origin. | |
| **Dorsalin** *(chick)* | dorsalin-1, DSL-1 | Regulates cell differentiation within neural tube. | |
| **NODAL** | None | Essential for mesoderm formation and subsequent organization of axial structures. | Cerberus |

# TGF-β リガンドのアンタゴニスト

| *Natural TGF-β Antagonists* | *Structural Features Contained in the Antagonist Polypeptide (M.W.)* | *Known TGF-β Binding Partners* |
|---|---|---|
| Noggin | unique Noggin cysteine knot (26 kDa) | BMP-2, -4 ,-5, -6, -7, -13/GDF-5, -6 |
| Chordin | 4 CR/VWCC (Chordin) domains, 3 SOG repeats (102 kDa) | BMP-2, -4, -7 |
| Chordin-like/Neuralin/Ventroptin | 3 Chordin domains (51 kDa) | BMP-4, -5, -6 |
| Follistatin | 3 cysteine-rich Follistain (FS) and 3 kazal domains (38 kDa) | Activin, BMP-2, -4, -6, -7, myostatin/GDF-8, GDF-11, TGF-β, TGF-$\beta_1$ |
| Follistatin-like related gene (FLRG) | 2 FS and 2 kazal domains (28 kDa) | Activin, BMP-6, -7, -11, myostatin/GDF-8, GDF-11, TGF-$\beta_1$ |
| GASP-1 | 1 Wap, 1 FS, 1 kazal, 1 IG-like, 2 kunitz, 1 netrin domains (63 kDa) | Myostatin/GDF-8, GDF-11, activin, BMP-11 |
| Follistatin-related protein (FSRP) | 1 FS, 1 CR/VWRC, 2 EF-hand domains (35 kDa) | Activin, BMP-2, -6, -7 |
| DAN | unique DAN cysteine knot (19 kDa) | BMP-2, -4, -7, -14/GDF-5 |
| Cerberus | DAN-like cysteine knot (30 kDa) | BMP-2, -4, -7, activin, nodal |
| Gremlin | DAN-like cysteine knot (21 kDa) | BMP-2, -4, -7 |
| Sclerostin/SOST | unique Sclerostin cysteine knot (24 kDa) | BMP-5, -6, -7 |
| Decorin | multiple leucine-rich repeats (40 kDa) | TGFβ-1, -2 |
| alpha-2 macroglobulin | multiple proteinase inhibitor domains (163 kDa) | TGFβ-1, -2 , activin, inhibin |




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# VEGF/PDGF ファミリー

| Functional Name | Synonyms | Expression (Partial List) | Function | Receptors (Selected List) |
|---|---|---|---|---|
| **VEGF-$A_{121}$** | Vascular Permeability Factor (VPF), Vasculartropin | All vascularized tissues | Angiogenesis, induces endothelial cell proliferation, and cell migration, osteoclastogenesis | VEGFR-1,-2 |
| **VEGF-$A_{145}$** | Vascular Permeability Factor (VPF), Vasculartropin | All vascularized tissues | Angiogenesis, induces endothelial cell proliferation, vasculogenesis, permeabilization of blood vessels, osteoclastogenesis | VEGFR-1,-2, HSPG, Neuropilin-1 |
| **VEGF-$A_{165}$** | Vascular Permeability Factor (VPF), Vasculartropin | All vascularized tissues | Angiogenesis, induces endothelial cell proliferation, vasculogenesis, permeabilization of blood vessels, osteoclastogenesis | VEGFR-1,-2, HSPG, Neuropilin-1,-2 |
| **VEGF-$A_{189}$** | Vascular Permeability Factor (VPF), Vasculartropin | All vascularized tissues | Angiogenesis, induces endothelial cell proliferation, migration | HSPG, Neuropilin-1,-2 |
| **VEGF-$A_{206}$** | Vascular Permeability Factor (VPF), Vasculartropin | All vascularized tissues | Not determined at time of printing | HSPG, Neuropilin-1,-2 |
| **VEGF-$B_{167}$** | VEGF-Related Factor (VRF) | Heart, skeletal muscle, vasuclar smooth muscle cells | Embryonic angiogenesis | VEGFR-1, Neuropilin-1 |
| **VEGF-$B_{186}$** | VEGF-Related Factor (VRF) | Heart, skeletal muscle, vasuclar smooth muscle cells | Embryonic angiogenesis | VEGFR-1, Neuropilin-2 |
| **VEGF-C** | VEGF-2, Vascular Endothelial Growth Factor Related protein (VRP), flt4 ligand | Neuroendocrine organs, lung, heart, kidney, vascular smooth muscle cells | Lymphangiogenesis and tumor angiogenesis | VEGFR-2,-3, Neuropilin-2 |
| **VEGF-D** | c-Fos Induced Growth Factor (FIGF) | Neuroendocrine organs, lung, heart, skeletal muscle, small intestine, vascular smooth muscle cells | Lymphangiogenesis and tumor angiogenesis | VEGFR-2,-3 |
| **VEGF-E** (Orf Virus) | None | Virus-derived | Induces endothelial proliferation, vascular permeability, angiogenesis | VEGFR-2, Neuropilin-1 (binds NZ2-VEGF-E variant) |
| **VEGF-F** (Snake venom) | None | Snake venom | Induces endothelial proliferation vascular permeability, angiogenesis | VEGFR-2 |
| **PlGF-1** | PGF, PIGF | Placenta, thyroid, lung, goiter | Angiogenesis, chemotactic towards monocytes, wound healing and tumor formation | VEGFR-1 |
| **PlGF-2** | PGFL | Placenta, thyroid, lung, goiter | Angiogenesis, chemotactic towards monocytes, wound healing and tumor formation | VEGFR-1, Neuropilin-1, Neuropilin-2 |
| **PlGF-3** | Placenta Factor-3 | Placenta | Angiogenesis, chemotactic towards monocytes, wound healing and tumor formation | VEGFR-1 |
| **PlGF-4** | None | Placenta, thyroid, lung, goiter | Angiogenesis, chemotactic towards monocytes, wound healing and tumor formation | VEGFR-1 |
| **PDGF-AA** | Glioma-Derived Growth Factor (GDGF), Osteosarcoma-Derived Growth Factor (ODGF) | α-granules, released upon platelet activation | Mitogenic factor, hyperplasia, cell migration, embryonic neuron development, angiogenesis | PDGFR-α |
| **PDGF-BB** | Glioma-Derived Growth Factor (GDGF), Osteosarcoma-Derived Growth Factor (ODGF) | Heart, brain (substantia nigra), placenta, fetal kidney | Mitogenic factor, hyperplasia, cell migration, embryonic neuron development, angiogenesis | PDGFR-α, PDGFR-β |
| **PDGF-AB** | Glioma-Derived Growth Factor (GDGF), Osteosarcoma-Derived Growth Factor (ODGF) | α-granules, released upon platelet activation | Mitogenic factor, hyperplasia, cell migration, embryonic neuron development, angiogenesis | PDGFR-α, PDGFR-β |
| **PDGF-CC** | Fallotein, Spinal Cord-Derived Growth Factor (SCDGF) | Retinal pigment epithelia, fallopian tube, vascular smooth muscle cells in kidney, platelets, prostate, testis, uterus | Mitogenic factor, hyperplasia, cell migration, embryonic development, angiogenesis | PDGFR-α |
| **PDGF-DD** | Iris-Expressed Growth Factor (IEGF), Spinal Cord-Derived Growth Factor-B (SCDGF-B) | Heart, pancreas, adrenal gland, ovary, placenta, liver, kidney, prostate, testis, small intestine | Mitogenic factor, hyperplasia, cell migration, embryonic development, angiogenesis | PDGFR-β |

INFORMATION & TECHNICAL SUPPORT

# ニューロトロフィン/神経新生サイトカイン

| Functional Name | Synonyms | Main Neurotrophic Functions (Partial List) | Disease/Disorder Relation (Partial List) | Receptors |
|---|---|---|---|---|
| **β-NGF** (beta-Nerve Growth Factor) | None | Supports survival and maintenance of neurons in the sensory and sympathetic nervous systems | Alzheimer's, Parkinson's, diabetic peripheral neuropathy, cardiovascular diseases | LNGFR, gp140/trk, p75NTR |
| **BDNF** (Brain Derived Neurotrophic Factor) | None | Supports survival and maintenance of neurons in the central nervous system and peripheral nervous systems | Parkinson's, diabetic peripheral neuropathy, ALS, Huntington's | LNGFR, gp145/trkB, p75NTR |
| **NNT-1/BCSF-3** (Novel Neurotrophin-1/ B-Cell Stimulating Factor 3) | Cardiotrophin-like cytokine (CLCF1) | Supports survival of motor and sympathetic neurons in chick embryos | Multifocal neuronal hypoplasia, neurodegenerative eye diseases (glaucoma), CISS (cold-induced sweating syndrome) | LIFR-β, gp130 |
| **NT-3** (Neurotrophin-3) | NGF-2, HGNF | Promotes growth and survival of new and existing neurons | Diabetic peripheral neuropathy, periodontal diseases | Trk, TrkB, TrkC, p75NTR |
| **NT-4** (Neurotrophin-4) | NT-4/NT-5 | Promotes survival of peripheral sensory sympathetic neurons | Huntington's, glaucoma | TrkB, p75NTR |
| **GDNF** (Glial Cell Line-Derived Growth Factor) | ATF-1 | Promotes dopamine uptake, survival and morphological differentiation of midbrain neurons | Parkinson's, ALS, Huntington's | RET/GFR1α-4α |
| **MANF** (Mesencephalic Astrocyte-Derived Neurotrophic Factor) | ARMET, Arginine-rich protein (ARP) | Promotes survival, growth and function of dopamine-specific neurons | Parkinson's, cancer | Unknown at time of printing |
| **CDNF** (Cerebral Dopamine Neurotrophic Factor) | ARMETL1 | Promotes survival, growth and function of dopamine-specific neurons | Parkinson's | Unknown at time of printing |
| **CNTF** (Ciliary Neurotrophic Factor) | None | Promotes survival of ciliary neurons, primary sensory neurons, motor neurons, basal forebrain neurons, and type 2 astrocytes | ALS, Huntington's | CNTFR-α |
| **IL-6** (Interleukin-6) | 26 kDa protein, IFN-β2, B-cell Differentiation Factor (BCDF), BSF-2, HPGF, HSF, MGI-2 | Involved in inflammation associated with Alzheimer's disease | Diabetes, atherosclerosis, Alzheimer's, depression, rheumatoid arthritis, systematic lupis, cancer, MS | IL-6Rα, gp130 |
| **Oncostatin M** | OSM | Involved in the regulation of neurogenesis | Rheumatoid arthritis, atherosclerosis, cancer, TEL/JAK2 disease | LIFR-high affinity, gp130-low affinity |
| **Cardiotrophin-1** | CT-1 | Enhances the survival of different neuronal populations | Motor Neuron Diseases (MND), cardiovascular diseases | gp130, LIFR |
| **IL-11** (Interleukin-11) | AGIF (Adipogenesis inhibitory factor) | Survival of oligodendrocytes, involved in inflammation associated with MS | Atherosclerosis, MS | IL-11Rα, gp130 |
| **LIF** (Leukemia Inhibitory Factor) | Differentiation-stimulating factor, D-factor, Melanoma-Derived LPL inhibitor (MLPLI) | Promotes the stimulation of differentiation of cholinergic nerves | Systemic lupus, cancer, epidermal hyperplasia in ALS | LIFR |
| **Pleiotrophin** | PTN, Heparin Affin Regulatory Protein (HARP), Heparin-Binding Growth Factor-8 (HBGF-8), Osteoblast-Specific Factor-1 (OSF-1) | Promotes neurite outgrowth | Angiogenesis, Parkinson's, cancer | ALK |
| **Midkine** | MK, NEGF-2 | Promotes neurite outgrowth | Alzheimer's, cancer | ALK |
| **Neurturin** | NTN, NRTN | Promotes survival of sympathetic and sensory neurons | Parkinson's | Prefers RET/GFR2α |
| **Artemin** | ART | Promotes the survival of sympathetic, neural crest, placodally-derived sensory neurons, and dopaminergic midbrain neurons | Chronic Pain | Prefers RET/GFR3α |
| **Persephin** | PSP, PSPN | Promotes the survival of ventral midbrain dopaminergic neurons and motor neurons after sciatic nerve oxotomy | Alzheimer's | Prefers RET/GFR4α |



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# 血漿リポタンパク質の一般的特徴

| LP Particle | Size | Density (g/ml)* | TG/CE Ratio* | L/P Ratio* | Associated Apoproteins |
|---|---|---|---|---|---|
| CM | 1000nm | <0.95 | 28.83 | 65.66 | **apoB-48,** apoA, apoC, apoE, apoH |
| VLDL | 70nm | 0.98 | 3.89 | 10.76 | **apoE,** apoB-100, apoC |
| IDL | 40nm | 1.01 | 0.82 | 8.09 | **apoE,** apoB-100, apoC |
| LDL | 20nm | 1.04 | 0.18 | 3.76 | **apoB-100**, apoC, apoE, apo(a) |
| HDL | 10nm | 1.13 | 0.16 | 1.22 | **apoA-I**, apoC, apoD, apoE |

LEGEND: * Average values, TG-triglycerides, CE-cholesteryl esters, L/P- lipid/protein, **Bold** represents the major apoprotein

# アポタンパク質の分類

| Apoprotein | MW | Function and Comments |
|---|---|---|
| ApoA-I | 29 kDa | Major protein of HDL, activates LCAT, high levels of ApoA-I are associated with a reduced risk of CHD. |
| ApoA-II | 17.4 kDa | Primarily in HDL, inhibits hepatic lipase activity. |
| ApoA-IV | 46 kDa | Present in fat-rich LPs. |
| ApoB-48 | 246 kDa | Derived from ApoB-100 gene by RNA editing, found exclusively in CMs, lack the LDLR binding domain of ApoB-100. |
| ApoB-100 | 513 kDa | Major protein of LDL, binds to LDLR, high levels of ApoB-100 are associated with an increased risk of CAD. |
| ApoC-I | 7.6 kDa | Appears to be involved in activation of LCAT. |
| ApoC-II | 8.9 kDa | Activates LPL, deficiency of ApoC-II results in accumulation of CMs and high TG levels. |
| ApoC-III | 8.75 kDa | Inhibits LPL. |
| ApoD | 33 kDa | Found only in HDL, closely associated with LCAT. |
| ApoE | 34 kDa | Three known ApoE alleles (E2, E3, E4). Binds to LDLR, inhibits development of atherosclerosis, ApoE4 is associated with late-onset Alzheimer’s disease. |

# 一般的な略号



| | |
|---|---|
| AA (aa) | Amino Acid |
| AAP | Antigen-Affinity Purified |
| ABTS | azino-diethylbenzothiazoline-sulfonate |
| AEC | 3-amino-9-ethylcarbazole |
| AP | Alkaline Phosphatase |
| AR | Antigen Retrieval |
| bME | beta-Mercatoethanol |
| BSA | Bovine Serum Albumin |
| Bt | Biotinylated |
| CHO | Chinese Hamster Ovary (cells) |
| ConA | Concanavalin A |
| Da | Daltons |
| DAB | 3,3' Diaminobenzidine |
| DI | Deionized |
| DMEM | Dulbecco's Modified Eagle Medium |
| DMSO | Dimethyl Sulfoxide |
| DTT | Dithiothreitol |
| ED50 | 50% Effective Dose |
| EDK | ELISA Development Kit |
| ECM | Extra Cellular Matrix |
| EIA | Enzyme Immunoassay |
| EIER | Enzyme-Induced Epitope Retrieval |
| ELISA | Enzyme-Linked Immunosorbent Assay |
| EU | Endotoxin Unit |
| ESC | Embryonic Stem Cells |
| FACS | Fluorescence-Activated Cell Sorter |
| FBS | Fetal Bovine Serum |
| FCS | Fetal Calf Serum |
| FFPE | Formalin-Fixed Paraffin-Embedded |
| FLISA | Fluorescence-linked Immunosorbent Assay |
| Gt | Goat |
| HCl | Hydrochloric Acid |
| HEK293 | Human Embryonic Kidney Cells |
| HIER | Heat-Induced Epitope Retrieval |
| HoAc | Acetic Acid |
| HPLC | High-Performance Liquid Chromatography |
| HRP | Horseradish Peroxidase |
| HSA | Human Serum Albumin |
| HSC | Hematopoietic Stem Cells |
| HUVEC | Human Umbilical Venous Endothelial Cells |
| ICC | Immunocytochemistry |
| IgG | Immunoglobulin G |
| IgE | Immunoglobulin E |
| IHC | Immunohistochemistry |
| IU | International Unit |
| kDa | kilodaltons |
| LAL | Limulus Amoebocyte Lysate assay |
| LPS | Lipopolysaccharide |
| MAb | Monoclonal Antibody |
| MSDS | Material Safety Data Sheet |
| MW | Molecular Weight |
| MSC | Mesenchymal Stem Cells |
| NaP (NaPO4) | Sodium Phosphate |
| NFDM | Nonfat Dry Milk |
| NKC | Natural Killer Cells |
| NM | Nitrocellulose Membrane |
| NSC | Neural Stem Cells |
| O.D. | Optical Density |
| PAb | Polyclonal Antibody |
| PAGE | Polyacrylamide Gel Electrophoresis |
| PCR | Polymerase Chain Reaction |
| PBL | Peripheral Blood Lymphocytes |
| PBS | Phosphate Buffered Saline |
| PBST | PBS with 0.1% TWEEN-20 |
| PBMC | Peripheral Blood Mononuclear Cells |
| PHA | Phytohemagglutinin |
| pI | Isoelectric Point |
| PIER | Protease-Induced Epitope Retrieval |
| Rb | Rabbit |
| RIA | Radioimmunoassay |
| RT | Room Temperature |
| SDS | Sodium Dodecyl Sulfate |
| TBS | Tris Buffered Saline |
| TFA | Trifluoroacetic Acid |
| TMB | 3,3',5,5'-tetramethylbenzidine |
| WB | Western Blot |
| WFI | Water Force Injection |
| WHO | World Health Organization |

# サイトカイン よくある質問

**当社では、サイトカインおよびサイトカイン製品の販売にあたり、品質面において下記のように徹底的な分析を行っております。**

1. 真正性：N-末端配列解析と可能な場合にはSDS-PAGE法、RP-HPLC法および質量分析法を用いて標準物質との比較を行っています。
2. 純度：SDS-PAGE および RP-HPLC 法を用いています。
3. 生物活性：関連する *in vitro* および *in vivo* バイオアッセイにより測定しています。
4. タンパク質含有量：UV 分光法および SDS-PAGE 法と可能な場合には HPLC 法を用いて較正標準溶液との比較を行っています。
5. エンドトキシン汚染：LAL カイネティック法を用いています。
6. 微生物汚染：メンブレンフィルター法を用いています。タンパク質溶液は無菌ろ過を行ってからバイアルに充填しています。

**各製品に関する情報は、一緒にお届けする試験成績書（Certificate of Analysis）に記載されています。溶解と貯法に関しては、この試験成績書を必ずお読みください。試験成績書をお読みになったうえで、さらに不明な点がある場合は、下記のよくある質問をお読みいただくか、当社テクニカルサポートまでお問い合わせください。**

### 1. ペプロテックのタンパク質の購入時のエンドトキシンレベルについて教えてください。

ペプロテックの動物由来成分不含（アニマルフリー）タンパク質におけるエンドトキシン濃度は、タンパク質 1µg あたり 0.01ng もしくは 0.1EU 未満であることが保証されています。また、非動物由来成分不含タンパク質については、そのほとんどで 1µg あたり 0.1ng 未満もしくは 1EU 未満のエンドトキシン濃度であることが保証されています。ただし、多くのタンパク質では、エンドトキシン濃度の実測値は常に上記のエンドトキシン濃度より低くなります。詳しくは当社テクニカルサポートまでお問い合わせください。

### 2. ペプロテックのタンパク質製品の安定性について何を知っておくべきでしょうか？

試験成績書に特に記載のない限りは、当社のどの製品も凍結乾燥したタンパク質が室温で高い安定性を示すような組成になっています。ただし、凍結乾燥製品は -20℃で保存することを推奨します。

大部分の製品で調製後の溶液は短期間であれば 4℃で保存することを推奨します。長期保存の場合には、タンパク質溶液は実用量に分注し、キャリアタンパク質（例：0.1% BSA）を添加して -20℃で凍結保存してください。凍結融解サイクルを経るごとにタンパク質の変性が生じるおそれがあるので留意が必要です。

### 3. バイアル中にタンパク質のペレット（パウダー）が確認できないのはなぜですか？

市販されている多くのタンパク質製品とは異なり、ペプロテックの製品はキャリアタンパク質や他の添加物（例：BSA、HSA、ショ糖）が使用されておらず、多くの場合最低限の量の塩類と共に凍結乾燥されています。そのため、凍結乾燥の際、バイアル内には目に見えないこともあるほどの薄い層になってわずかな量のタンパク質が沈着する可能性があります。開栓前に卓上型遠心分離器で各バイアルを 20 ～ 30 秒間遠心し、キャップやバイアル内壁に付着している可能性のあるタンパク質をバイアル底部に集めることを推奨します。当社の品質管理手順によって、各バイアルに適正量の製品が充填されていることを保証しています。

### 4. $ED_{50}$ で表される比活性と units/mg で表される比活性にはどのような関係があるでしょうか？

活性が最大反応の 50% に達するサイトカイン濃度が $ED_{50}$ と定義されます。この効力の表現方法は、用量反応曲線がシグモイド曲線になるサイトカインにのみ用います。$ED_{50}$（ng/mL）で表される活性から units/mg で表される比活性に変換する公式は次のとおりです。

$$\frac{1 \times 10^{6}}{ED_{50}\ (\text{ng/ml})} = \text{比活性 (units/mg)}$$

### 5. 種間交差活性を示すサイトカインはどれですか？

多少の例外はありますが、大部分のヒトサイトカインはマウス細胞で活性を示します。多くのマウスサイトカインは、ヒト細胞で活性を示しますが、対応するヒトサイトカインと比べて比活性が低くなります。それどころか、IL-7 などの幾つかのヒトサイトカインは、対応するマウスサイトカインと比べてマウス細胞で高い比活性を示します。インターフェロン、GM-CSF、IL-3、IL-4 は、種特異的であり、異種細胞に対しては示したとしてもほんのわずかな活性しか示さないことが明らかになっています。これに対し、FGF およびニューロトロフィンは、非常に高度に保存されており、他の動物種の細胞に対して優れた活性を発揮します。

# 動物由来成分不含培地添加剤キット よくある質問

1. 化学的組成が明らかな無血清培地とは何ですか？

   化学的組成が明らかな培地は、分子の構造と濃度が明らかになっている成分のみ含有しています。

2. ペプロテックの動物由来成分不含培地添加剤キットにはタンパク質は使用されていますか？

   いいえ。当社の動物由来成分不含培地添加剤キットには、動物由来成分が使用されていないばかりでなく、タンパク質も使用されていません。

3. 化学的組成が明らかな無血清培地を使用することの利点は何ですか？

   次のような利点があります：「ロット間の変動が減り、細胞増殖の再現性が高い」、「血清を添加した場合と比べてタンパク質収量が高い（タンパク質産生アプリケーションの場合）」、「一定した性能の培地が得られる」、「ウイルスや他の感染物質による汚染リスクを低減できる」、「ダウンストリーム精製の困難が軽減される（タンパク質産生アプリケーションの場合）」、「血清ロットの事前スクリーニングの必要がなくなる」、「規制要件や他の添付書類要件が簡素化される」。

4. 本製品に関して動物由来成分不含の証明書は提供していただけますか？

   はい。当社テクニカルサポートまでお問い合わせください。

5. このキットの組成をどこで見ることができますか？

   ペプロテックはキットの組成を開示しておりません。

6. DMEM/F12 培地の代わりに DMEM 培地を使用することはできますか？

   DMEM/F12 培地は、DMEM 培地の半分量と F12 培地の半分量を混合したものであるため、DMEM 培地のみと比べて栄養価が大幅に高くなっています。当社では現時点では DMEM 培地の試験は行っていません。そのため、当社の添加剤は DMEM/F12 培地に使用することを推奨します。




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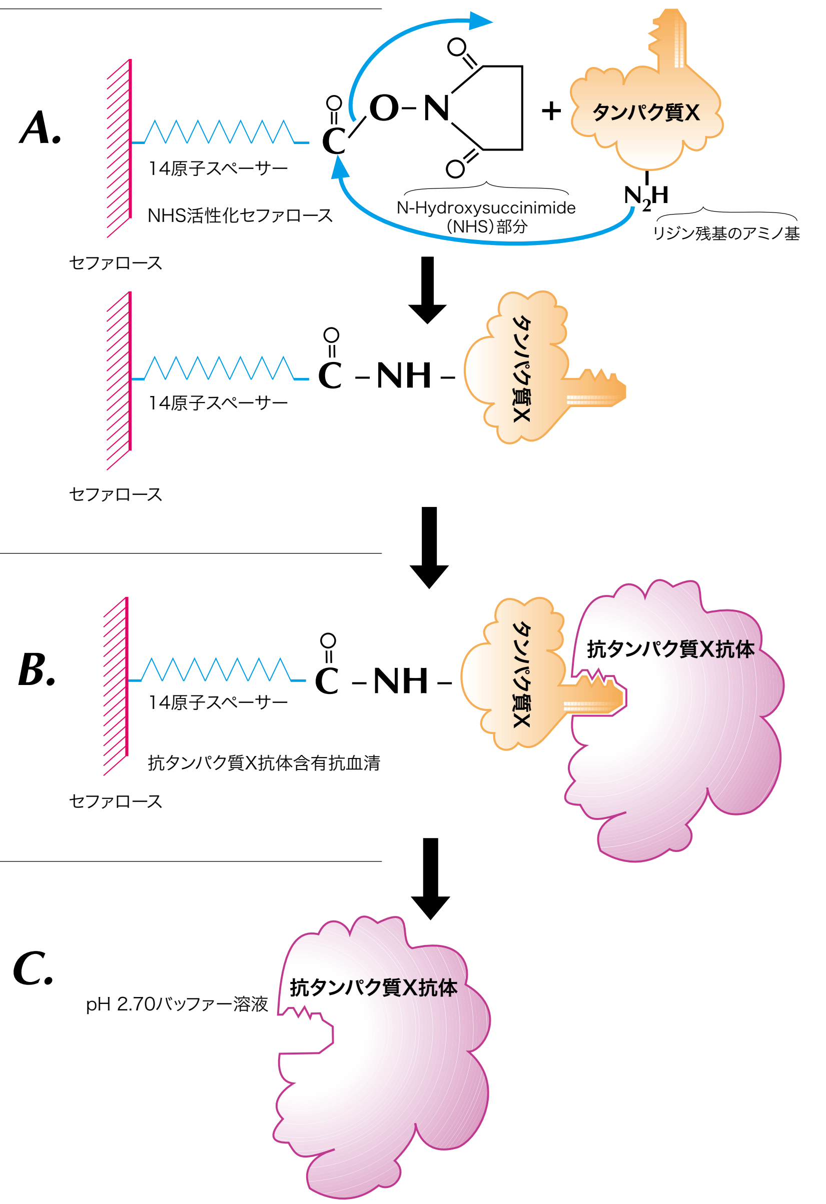
# 抗体の抗原親和性精製

サイトカインは、体の中での細胞間の情報伝達に必要なシグナル伝達タンパク質です。生体の生物学的機能の維持における役割と一致し、様々な哺乳類に由来する相同サイトカインのアミノ酸配列が一般に高度に保存されているため、これらのサイトカインは抗体産生のための免疫原性が低くなります。その結果、サイトカインで免疫を誘導した宿主動物の血清（図 I-4）が含有するサイトカイン特異抗体は通常微量です。これらの抗体を標準的な精製手順（例：イオン交換クロマトグラフィー法）で分離するのは単調な作業となり効率的ではありません。

一方、特定の生体分子に対する抗体の結合親和性を利用した精製プロトコルでは大幅に良好な結果が得られ

## 図 I-1 抗体の抗原親和性精製

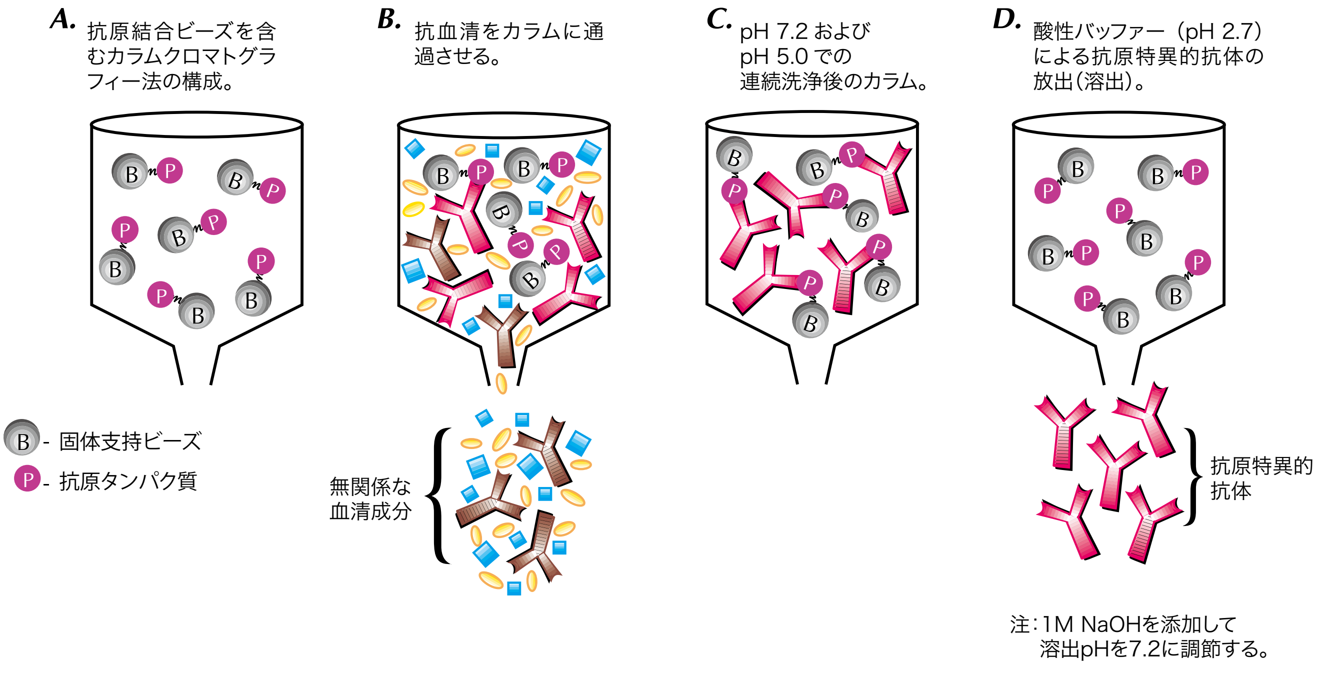
***(A.)*** 分離用樹脂の調製 ***(B.)*** 抗体と樹脂の特異的結合 ***(C.)*** 親和性カラムからの抗体のpH溶出



# 抗体の抗原親和性精製（続き）

ています。例えば、プロテイン A とプロテイン G は、細菌（ブドウ球菌）由来タンパク質で免疫グロブリン（IgG）の Fc（Fragment crystallizable）領域に対して高い結合親和性を示し、固相支持体に結合させると IgG を他の血清成分から効率的に分離することができます。血清 IgG のプロテイン A/G 親和性精製により、通常、目的の抗体が 100 倍以上増加します。しかし、抗サイトカイン抗体の場合には、総 IgG 分画における目的の抗体の含有率は 0.2% 未満になることが多々あります。これらの試料中に無関係な IgG が多量に含まれていると、サイトカイン特異抗体の相対量の定量が妨げられるだけでなく、抗体を ELISA、中和試験、免疫組織化学検査、ウェスタンブロット法などの分析法に使用する場合にバックグラウンドノイズが大きくなります。抗血清から特異的ポリクローナル抗体を分離する優れた方法は、抗体 - 抗原相互作用の特異性を利用したアフィニティクロマトグラフィー法です（図 I-1）。この方法では、担体は、抗原が安定した共有結合によって結合する固相支持樹脂から構成されます。固定化した抗原をその後カラムクロマトグラフィー法の構成に使用すると、抗原特異的抗体は選択的に捕捉され、

図 I-2 抗体の抗原親和性精製のためのカラムクロマトグラフィー法の構成の概略図



他の血清タンパク質および無関係の免疫グロブリンは洗い流されます（図 I-2）。抗原と結合した抗体は酸性溶液でカラムから溶出させることが可能で（図 I-3）、この溶液を速やかに生理的 pH に戻すと酸触媒による抗体変性を防ぐことができます。この方法による収量の 95% 超は純粋な特異抗体になります（図 I-5）。

**図 I-3** 典型的な抗原親和性精製クロマトグラフ

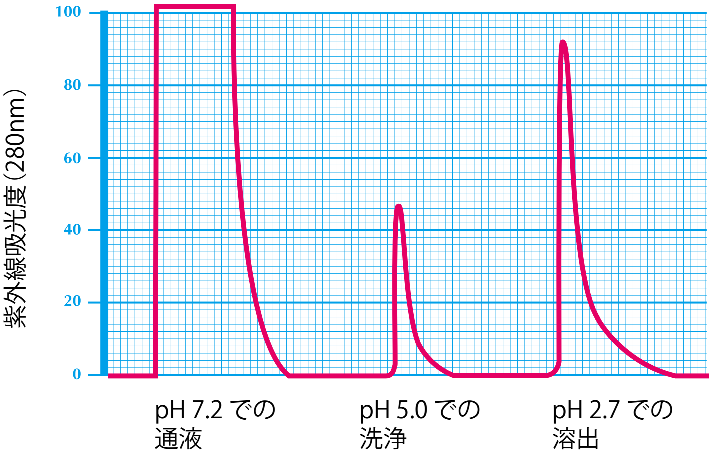



**図 I-5** ウサギ抗ヒト IL-8 ポリクローナル抗体（RbαhIL-8）の SDS-PAGE 分析

**レーン 1**：分子量マーカー
**レーン 2**：RbαhIL-8 2μg（非還元）
**レーン 3**：RbαhIL-8 2μg（還元）

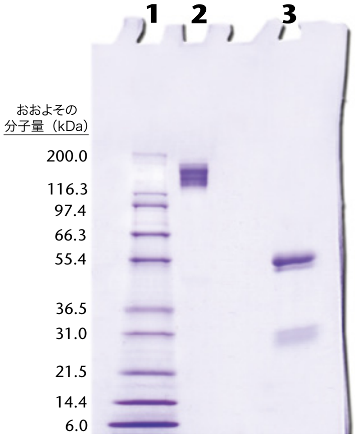



**図 I-4** ウサギを用いたポリクローナル抗体産生のための一般的な免疫付与スケジュール

| 日 | 手順 | 抗血清採取量 |
|---|---|---|
| 1 | 前採血 | 3mL |
| 1 | 初回免疫付与（250μg） | - |
| 21 | 免疫付与（125μg） | - |
| 31 | 抗体価測定用の採血 | 3mL |
| 42 | 免疫付与（125μg） | - |
| 49 | 産生用の採血 | 10-25mL |
| 56 | 産生用の採血 | 10-25mL |
| 63 | 免疫付与（125μg） | - |
| 70 | 産生用の採血 | 10-25mL |
| 77 | 産生用の採血 | 10-25mL |
| 84 | 免疫付与（125μg） | - |
| 91 | 産生用の採血 | 10-25mL |
| 98 | 産生用の採血 | 10-25mL |

# 抗体 よくある質問

1. ペプロテックでは自社の抗体にエンドトキシン試験を行っていますか？

　当社では LAL カイネティック法で抗体のエンドトキシン試験を行っています。詳しい情報は当社テクニカルサポートまでお問い合わせください。

2. ペプロテックのポリクローナル抗体のアイソタイプは？

　当社が製造するポリクローナル抗体は IgG 抗体です。

3. ペプロテックの抗体はどのように精製していますか？

　すべてのポリクローナル抗体とビオチン化ポリクローナル抗体に対して、抗原親和性精製を行っています。モノクローナル抗体の精製法は製品毎に違いますので、詳しい情報はテクニカルサポートまでお問い合わせください。

4. ペプロテックの抗体が結合するエピトープについて教えてください。

　当社は現時点ではエピトープマッピングを実施していません。一般的な指針として、モノクローナル抗体は標的タンパク質の特定のエピトープに結合しますが、ポリクローナル抗体の場合は様々な抗体分子種の混合物となるため、複数のエピトープに結合します。

5. ペプロテックの抗体は中和試験を行っていますか？

　中和試験は抗体毎にロットベースで実施しています。中和試験の結果は製品の該当データシートに記載されています。

6. ペプロテックの抗体は ELISA 法やウェスタンブロット法での使用に適していますか？

　当社の抗体は ELISA 法やウェスタンブロット法での使用に適しています。これらの用途に関する詳しい情報は、ELISA とウェスタンブロット法のそれぞれのよくある質問をご覧ください。

7. ペプロテックの抗体製品の安定性についてどのような情報を知っておくべきでしょうか？

　当社の抗体は PBS から調製されている凍結乾燥品です。そのため、室温で少なくとも 1 ヵ月間は安定しています。1 ヵ月を超える場合には、凍結乾燥品は -20℃で保存することを推奨します。

　調製後の抗体溶液は、4℃での短期保存を推奨します。長期保存する場合には、まず抗体溶液を分注し（凍結融解サイクルを 2 回以上繰り返さないため）、-20℃で凍結保存してください。この抗体溶液の凍結アリコートは、-20℃で保存すれば少なくとも 1 年間は安定しています。

8. ペプロテックの抗体製品はキャリアタンパク質や他の添加物を含有していますか？

　いいえ。当社では、ポリクローナル抗体、ビオチン化ポリクローナル抗体またはモノクローナル抗体に添加物やキャリアタンパク質は使用していません。

9. ペプロテックの抗体は免疫組織化学検査や免疫細胞化学検査に役立ちますか？

　現在までに試験済みのどの抗体もこれらの用途に適していることが明らかになっています。ただし、当社では、さらに当社抗体についての多くのデータを引き続き収集しています。詳しい情報はテクニカルサポートまでお問い合わせください。

10. ペプロテックの抗体は他社が販売している標的タンパク質を認識しますか？

　当社の抗体製品は、天然型あるいは組換え型、またはその両方のタンパク質に対して高い結合親和性を示します。しかし、他社のタンパク質のなかには時として真正性が欠けることもあるため、当社の抗体がこれらのタンパク質で同じような優れた性能を発揮するということは保証できません。

11. ペプロテックの抗体は血液や血清などの複合体液中の標的タンパク質を認識しますか？

　はい。ただし、妨害物質含有量が高い試料では、認識の効率が低下して、バックグラウンドが高くなったりシグナル / ノイズ比が低下したりする可能性があります。





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# ELISA

酵素免疫測定法（ELISA: Enzyme-linked Immuno-sorbent Assay）は、細胞溶解液、血清または他の複合溶液中の特定の抗原または抗体の濃度を定量するための検査手法です。最も簡素な、ダイレクト ELISA と呼ばれるフォーマットでは、ポリスチレンプレートなどの固相結合担体を測定対象抗原の捕捉に使用し、その後この抗原を特定の酵素標識抗体を利用して検出します。検出プロトコルでは、無色の基質溶液を、反応プレートで直接測定できる鮮明な色を発する産物に変換する必要があります。反応が起こっている間の吸光度の増加を幾つかの試料溶液で様々な時点にて記録し、その後収集したデータを標準曲線とあわせて使用し、元の試料中の抗原濃度を算出します（図 II-1）。ELISA は、感度と特異度が放射免疫測定法（RIA）と同等ですが、放射性同位体と高価な計数装置を必要としないという利点があります。ELISA は近年、研究室と臨床検査室の双方で広く使われるようになっており、ヒト免疫不全ウイルス（HIV）感染をはじめとする多くの感染症の重要な診断検査となっています。

酵素標識抗体の調製に適している酵素は、アルカリホスファターゼ、西洋ワサビペルオキシダーゼ、炭酸脱水酵素を含めて数多くあります。酵素標識抗体はグルタルアルデヒドなどのカップリング剤で酵素と抗体を共有結合させることによって得られますが、この方法では産物の免疫活性と酵素活性の両方またはその一方が低下することが多いために一般には使用されません。完全な活性を示す酵素標識抗体を調製する優れた方法は、図 II-2 に示すようにビオチンに対するアビジンの高結合親和性を利用することです。この方法で用いるビオチン化抗体は平均６～８個のビオチン部分を有していますが、サイズが小さいためにこれらのビオチン部分が抗体と捕捉される抗原の相互作用を妨げることはありません。結合しなかった抗体をプレートから洗い流した後、*in situ* にてビオチン部分とアビジン - 酵素複合体で安定した複合体を形成させます。

ダイレクト ELISA フォーマットの大きな欠点として、一部の抗原（例：低分子サイトカイン）はポリスチレンプ



図 II-1 標準曲線の見本 - ヒト EGF ABTS ELISA

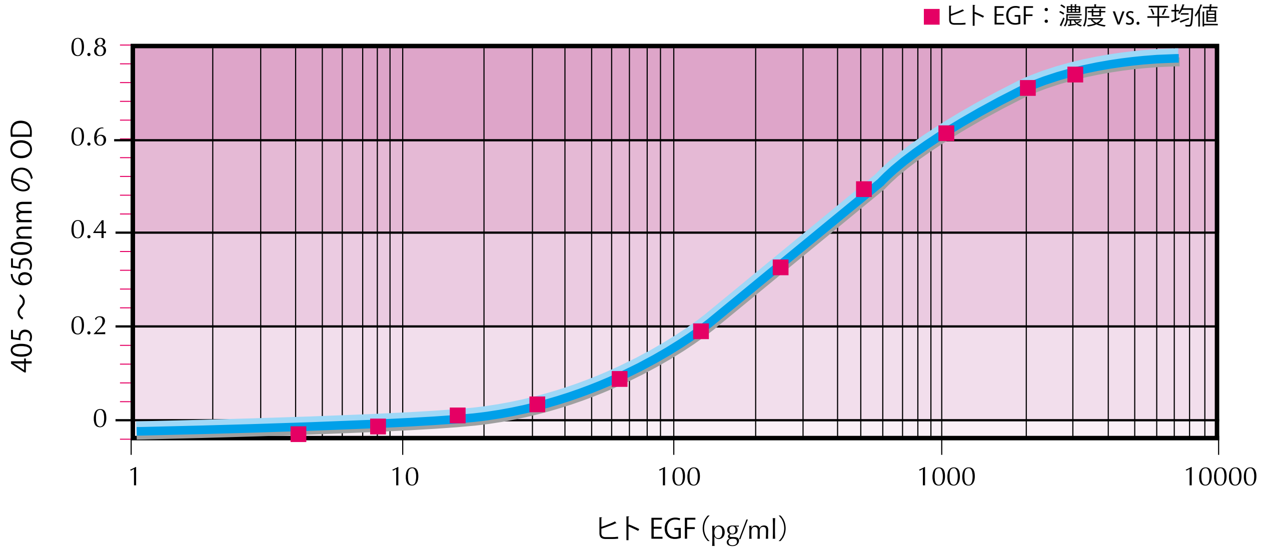
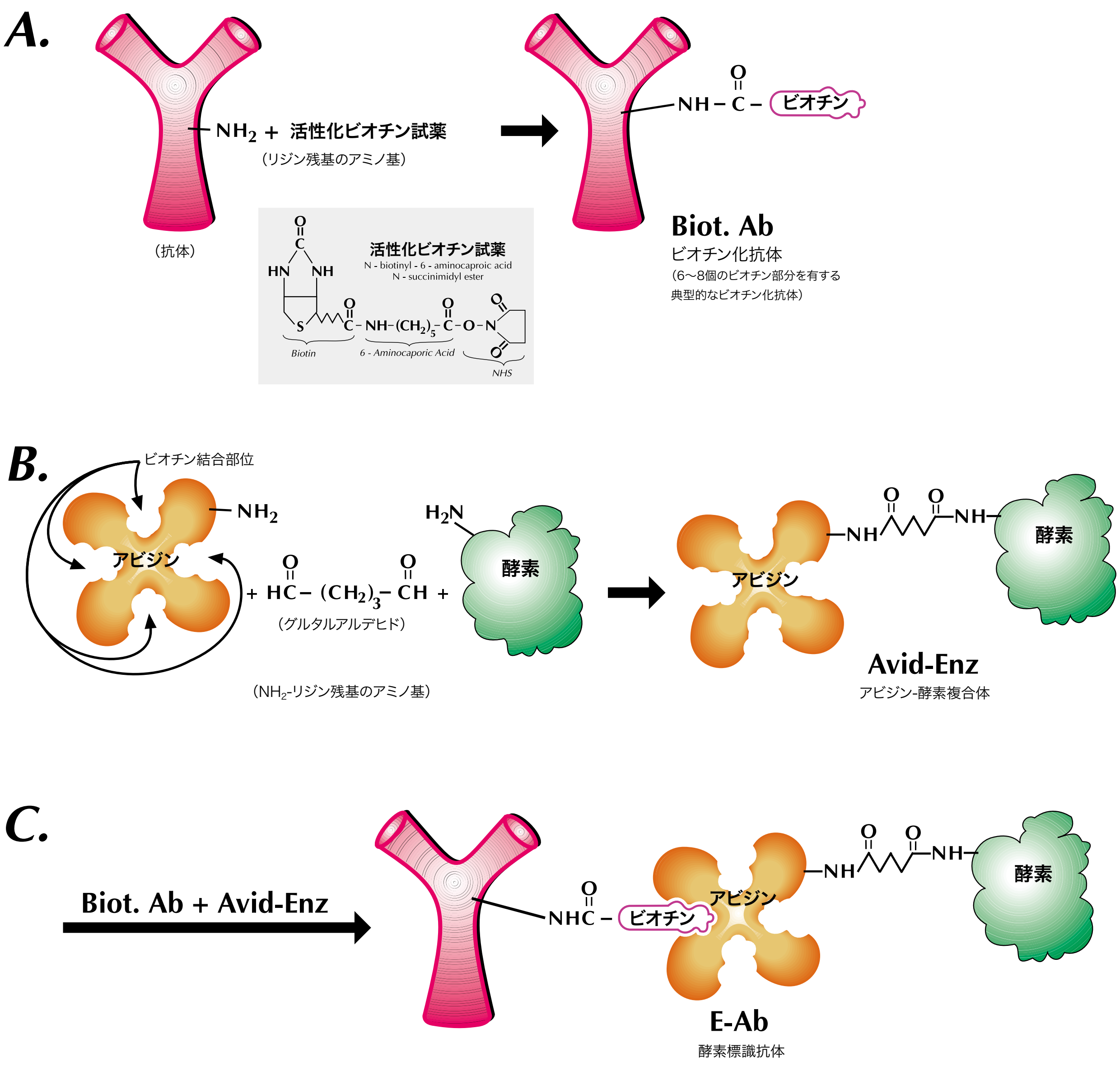


図 II-2 アビジン – ビオチン相互作用を利用した酵素標識抗体の作製手順

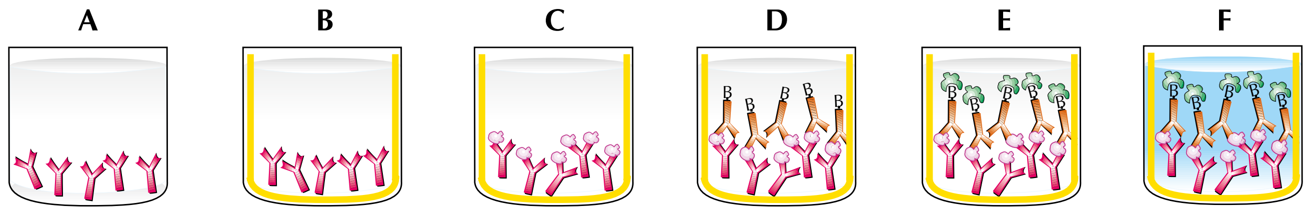
***(A.)*** 抗体のビオチン化　***(B.)*** アビジンと酵素の抱合反応
***(C.)*** アビジンとビオチンの非共有結合性相互作用による酵素標識抗体の *in situ* 形成




INFORMATION & TECHNICAL SUPPORT

レートへの結合が少ないために正確に測定することができません。この欠点を回避するために、プレートは、酵素標識抗体が使用しないエピトープで測定対象抗原を認識する特異的抗体によってあらかじめコーティングすることができます。抗原特異的抗体の対応対（一方は捕捉用、他方は検出用）を用いると、分析の感度と特異度の双方が著しく向上します。このサンドイッチ ELISA と呼ばれるフォーマットは、ピコグラム単位の量の抗原を検出することができ、生体試料中のサイトカインおよびホルモンの測定に好ましい方法です（図 II-3）。

**図 II-3** サンドイッチ ELISA プロトコルの概略図




**抗原特異的抗体のコーティング**

**非特異的結合のブロック**

**抗原の特異的結合**

**サンドイッチの形成**

**サンドイッチへの酵素標識アビジンの添加**

**無色の基質溶液は可溶性の発色産物に変換されます**

**A.** 抗原特異的抗体（捕捉抗体）を PBS（1.0µg/mL）に溶解して新たな溶液を調製し、速やかに各ウェルに 100µL ずつ分注します。プレートを密封し、室温で一晩または 37℃で 2 ～ 4 時間インキュベートします。インキュベーション時間の終了後、結合しなかった抗体を洗い流します（つまり、吸引と洗浄を 4 回繰り返します）。

**B.** ブロッキング剤（例：BSA）の新たな溶液を添加し、少なくとも 1 時間インキュベートします。ウェルを 4 回洗浄します。

**注：**非特異的結合のブロッキングが不十分だと、バックグラウンドノイズが大きくなるおそれがあります。このような場合には、インキュベーション時間を増やすか他のブロッキング剤を試してください。

**C.** 新たに製した標準物質、試料またはコントロールの溶液を添加し、2 時間超の間インキュベートします。ウェルを 4 回洗浄します。

**D.** 新たに製したビオチン化抗原特異的抗体（検出抗体）を添加し、2 時間インキュベートします。ウェルを 4 回洗浄します。

**E.** アビジン -HRP 複合体の溶液を添加し、30 分間インキュベートします。ウェルを 4 回洗浄します。

**F.** 基質（ABTS）溶液を添加し、405nm（650nm で波長補正）に設定した ELISA プレートリーダーを用い、5 分間隔で発生した吸光度を読み取ります。

**注：**ブランクの吸光度（O.D.）の読み取り値は 0.2 O.D. 単位を超えてはいけません。

**注：**特に指定がない限り、ELISA プロトコルは周囲温度で実施します。

# ELISA よくある質問

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1. ペプロテックのELISA Development Kit(EDK)1キットで何枚のプレートを作製することができますか？

ELISA Development Kitには100ウェルでの標準的なプレート10枚を作製することができるだけの十分な試薬（捕捉抗体、検出抗体、標準物質、アビジン-HRPまたはストレプトアビジン-HRP）が入っています。これはELISAプレートウェル1,000個に相当します。また、Mini ELISA Development Kitには100ウェルでの標準的なプレート2枚を作製することができるだけの十分な試薬が入っています。これはELISAプレートウェル200個に相当します。

2. ペプロテックのEDKに含まれているHRP複合体の安定性は？

ABTS EDKに含まれているアビジン-HRPは、2〜8℃で最長1ヵ月間、-20℃で最長2年間安定しています。凍結保存した際は、融解後の再凍結は避けてください。TMB EDKに含まれているストレプトアビジン-HRPは、2〜8℃で少なくとも6ヵ月間安定しています。

3. キットの交差反応性についての情報はどのように入手することができますか？

ペプロテックではEDKの交差反応性試験を社内で実施しています。この試験で得られた結果はキットのデータシートに記載されています。

4. ELISAプロトコルの中で週末の間に残しておくことのできる手順はありますか？

プレートは、金曜日に捕捉抗体でコーティングし、週末の間は4℃を保ち、月曜日に再開してもかまいません。**注：**インキュベーション時間を変更すると、プレート間の結果にバラツキが生じるおそれがあります。

5. ペプロテックのEDKはすべての種類の試料で使用するのに適していますか？

当社は利用可能な各マトリックスですべてのキットを試験したわけではありませんが、血清、血漿、細胞培養上清、尿、唾液等のマトリックスなどでの使用には適していると思われます。

6. 反応を停止させるために反応停止液は必要ですか？

アビジン-HRP＋ABTSを使用するときには反応停止液は必要ありません。信頼性の高い標準曲線は一般に、O.D.読み取り値がゼロ標準濃度の場合には0.2単位、または最高標準濃度の場合には1.2単位を超えないときに得られます。

反応停止液を希望する場合には、1%ドデシル硫酸ナトリウム（SDS）を使用して反応を停止させても構いません。文献からはSDSがABTSに対する最適な反応停止液であることが示されていますが、当社のラボではABTS EDKには反応停止液を使用していません。

一方で、TMB EDK（ストレプトアビジン-HRP＋TMB）には反応停止液（1M HCl）の使用を推奨します。

7. ペプロテックのABTS EDKにTMBを使用することはできますか？

当社のEDKは、ABTSを使用して最適化されているため、この基質と一緒に使用するのが最も好ましいと思われます。しかし、このキットは、幾つか調整を行った後であればTMBと一緒に使用することもできます。

- キットに含まれているアビジン-HRPはTMBと一緒に使用することができません。ストレプトアビジン-HRPを別途購入する必要があります。
- ストレプトアビジン-HRP希釈液を最適化する必要があります。
- ストレプトアビジン-HRPとTMBを一緒に使用する場合には一般に、反応停止液が必要です。製造元のデータシートをご参照ください。
- 反応停止液添加前のTMB反応時間を最適化する必要があります。
- プレートは、推奨プレートを使用する場合には450nm（620nmで補正）で読み取りを行ってください。

8. D-マンニトールをEDKの構成品に添加している理由は何ですか？

D-マンニトールをEDKの構成品に添加しているのは、タンパク質/抗体の可視化に役立つためです。D-マンニトールはELISAの結果には影響しません。

9. EDKデータシート上の曲線を自分の標準曲線として使用することはできますか？

ELISAプレート毎に別々の標準曲線を作成しなくてはなりません。つまり、あるプレートから得られた曲線を別のプレートに使用することはできません。当社がEDKデータシート上で提供している曲線は、当社のラボで得られたものですが、あくまで説明用として使用しています。

10. ペプロテックは標準曲線をどのように作成していますか？

当社のラボでELISAを実施する場合は、Molecular Devices社のプレートリーダーとSOFTmax®PROを使用しています。このプログラムは、受け取った値から4-パラメータの曲線を作成します。プログラムが使用する等式は次のとおりです。

4-P フィッティング：

$$y = \frac{A - D}{1 + \left(\frac{x}{C}\right)^{B}} + D$$

x = 濃度（pg/mL）
y = O.D. (405nm – 650nm)
A、B、C、D は 4 つのパラメータに対応 *

* パラメータに関する詳しい情報はテクニカルサポートまでお問い合わせください。


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# ELISA トラブルシューティングガイド

トラブルに対処する場合には、バッファーはすべて新しく用意してください。BSA 含有バッファーは滅菌ろ過し、全ての試薬は使用する前に室温になっているようにしてください。

| 問題 | 考えられる原因 | 提案 |
|---|---|---|
| バックグラウンドが高い／非特異的な発色が起こる | 抗体の非特異的な結合がみられる | • 使用するブロッキングバッファーを変えてください（例：BSA の代わりにカゼインを使用)。ブロッキングステップの後に洗浄せず、中身を廃棄し、しっかりと水分を取り除いて次のステップに直接進んでください。 |
| | プレートの洗浄が不十分である | • 各洗浄ステップですべてのウェルがバッファーで満たされていることを確認してください。洗浄器具が適切に作動していることを確認してください。ステップとステップの間で 3 ～ 5 回の洗浄を行ってください。追加の洗浄はしないでください。最後の洗浄の後には、プレートに残留しているバッファーをペーパータオルでしっかり吸い取って除去してください。洗浄液に添加した Tween の量に間違いがないことを確認します（0.01 ～ 0.1% が推奨されます)。 |
| | バッファーの汚染が生じている | • すべてのバッファーを新たに製し（使用の 7 日以内)、滅菌ろ過してください。 |
| | インキュベーション温度が高すぎる | • 手順の最初から最後まで室温（25℃）でインキュベートしてください。 |
| | インキュベーション時間が長すぎる | • インキュベーション時間を短縮してください。 |
| | 複合体による基質の汚染または陽性コントロールによるブランクウェルの汚染 | • 試薬から試薬に移動するときにはピペット先端を交換し、別個のリザーバを使用してください。洗浄バッファーは吸引するのが理想です（注いだり、傾けて廃棄したりすると交差汚染を引き起こすおそれがあります)。 |
| | 検出抗体またはアビジン-HRPの濃度が高すぎる | • 算出値をチェックするか、さらに希釈を試みてください。 |
| | 使用前に基質を光に曝露した | • ウェルに分注する用意ができるまで基質は暗所で保存してください。 |
| | 読み取りの際に間違ったフィルタを使用した | • 推奨プレートを使用する場合の波長は、ABTS では 650nm で波長補正し 405nm とし、TMB では 620nm で波長補正し 450nm とします。 |
| | 発色に必要な時間を過ぎてから測定した | • ブランクの O.D. 読み取り値をモニタリングするために、推奨された時間、または時間間隔で読み取ってください。 |
| 発色が弱い / 発色しない | 誤って使用しなかった試薬や省いた手順がある | • プロトコルをチェックし、注意深く手順に従ってください。 |
| | 洗浄バッファー中の界面活性剤濃度が高すぎる | • 界面活性剤を除去するか減量してください（0.01 ～ 0.1% を推奨します)。 |
| | プレートの洗浄が不適切である | • 特に自動または半自動の洗浄装置を使用しない場合には、ステップとステップの間の洗浄回数を減らしてください。1 ～ 2 回の洗浄で十分と考えられます。 |
| | 試料中に酵素阻害剤が含まれている | • アジ化ナトリウムはペルオキシダーゼ活性を阻害します。 |
| | インキュベーションの時間や温度が不適切である | • プロトコルの推奨事項をチェックしそれに従ってください。インキュベーション中はプレートをインキュベータ内に入れておき、温度の変動を避けてください（温度は 25℃に設定します)。 |
| | ウェルへの基質の添加量が不適切である | • ピペットをチェックし、目盛り付きピペットを使用してください。 |

# ELISA トラブルシューティングガイド（続き）

| 問題 | 考えられる原因 | 提案 |
|---|---|---|
| 発色が弱い / 発色しない（続き） | 不適切な酵素 - 基質系を使用している | • 製造元の規格をチェックしてください。アビジン-HRP+ABTSまたはストレプトアビジン-HRP+TMB。 |
| | 複合体または基質が活性を示さない | • 別の試験系で活性を測定し、使用期限をチェックしてください。 |
| | 構成品の保存が不適切である | • どの構成品もデータシートの推奨どおりに保存してください。 |
| | 測定時に間違ったフィルタを使用している | • 推奨プレートを使用する場合の波長は、ABTS では 650nm で波長補正し 405nm とし、TMB では 620nm で波長補正し 450nm とします。 |
| 標準曲線が妥当でない | 標準物質の調製が正しく行われていない | • 標準物質はデータシートの推奨どおりに調製してください。別のバッファーが最適化されていない限り、推奨の希釈バッファーのみで希釈を行ってください。 |
| | 希釈を行うのが早すぎる | • 試薬は使用直前に調製し、速やかにウェルに添加してください。 |
| | 捕捉抗体が結合しなかった | • ELISA に適したプレート（つまり、Nunc MaxiSorp™ 製品番号 439454）を使用してください。組織培養プレートを使用してはいけません。 |
| | 洗浄が不十分である | • 洗浄器具が適切に作動していること（つまり、各ウェルへの分配量が均等であること）を確認してください。吸引後にはウェルに液残りがないことを確認してください。ウェルが適時に満たされていることを確認してください。 |
| | ピペッティングエラー | • 目盛り付きピペットを使用し、各ウェルの側面に同じように速やかに分注してください。 |
| | 発色に必要な時間を過ぎてから測定した | • 信頼性の高い標準曲線は一般に、ABTS EDK では O.D. 読み取り値がゼロ標準濃度の場合には 0.2 単位、または最高標準濃度の場合には 1.2 単位を超えないときに得られ、TMB EDK では O.D. 読み取り値がゼロ標準濃度の場合には 0.15 単位を超えないときに得られます。 |
| | 構成品の保存が不適切である | • どの構成品もデータシートの推奨どおりに保存してください。調製後の試薬はあまりに長い時間室温に放置してはいけません。 |
| 精度が不良である | 試薬の混和が不十分である | • 分注前に試薬が十分に混和されるようにしてください。 |
| | 洗浄が不十分である | • 洗浄器具が適切に作動していること（つまり、各ウェルへの分配量が均等であること）を確認してください。吸引後にはウェルに液残りがないことを確認してください。ウェルが適時に満たされてることを確認してください。 |
| | ピペッティングエラー | • 目盛り付きピペットを使用し、各ウェルの側面に同じように速やかに分注してください。 |
| | 器具の再使用 | • アンプルからアンプルに移動するときにはピペット先端を交換し、試薬から試薬に移動するときにはリザーバを交換し、インキュベーションの間にはプレートシーラーを交換してください。 |
| | ウェルをピペット先端または洗浄器具で引っ掻いてしまった | • 分注および吸引は注意して行ってください。 |
| | 試料中の沈澱物 | • バイアルは使用前に遠心してください。 |
| | ウェルの汚れや残屑 | • 使用前にウェルを点検し残屑があれば取り除いてください。プレート底部を拭き、測定前に残屑や指紋があれば除去してください。 |
| エッジ効果 | 蒸発 | • 各ステップでプレートシーラーを使用してください。 |
| | 温度にむらがある | • インキュベーション中はプレートをインキュベータ内に入れておき、温度の変動を避けてください（温度は 25℃に設定します）。プレートを積み重ねてはいけません。 |


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# ウェスタントランスファー法（ウェスタンブロット法）

ウェスタンブロット法としても知られているウェスタントランスファー法は、細胞溶解液や血清など複雑なタンパク質混合物中の特定のタンパク質の有無を確認するための迅速免疫ブロット法です。この手法は、タンパク質の混合物を別個のタンパク質バンドに分離するSDS-PAGE法の効率の良さと特定のタンパク質抗原と特異的に相互作用する免疫化学試薬の機能の両方が活かされています。

ウェスタントランスファー法プロトコル（例：タンパク質「X」の検出を目的としたもの）には通常、次のステップが含まれています。（1）分析対象溶液中のタンパク質をSDS-PAGE法で別個のバンドに分離し、（2）大きさ別に分離されたタンパク質をポリアクリルアミドゲルからニトロセルロース膜（または別の適切なマトリックス）へ転写し、（3）タンパク質バンドが転写された膜を（a）非特異的なタンパク質結合を抑制するための適切なブロッキング試薬、（b）結合できなかったブロッキング試薬を洗い流すための洗浄液、（c）タンパク質「X」と特定の免疫複合体を形成するプローブ抗体、（d）結合できなかった抗体を除去するための洗浄液、（e）抗タンパク質「X」抗体のFc領域と特異的に結合する酵素標識抗体、（f）結合できなかった酵素標識抗体を除去するための洗浄液、そして最後に、（g）酵素が存在する場合に免疫複合体の部位に沈殿する不溶性の発色産物を産生する基質溶液を連続的にインキュベートし、タンパク質「X」のバンドを可視化します（図III-1）。

## 典型的なウェスタントランスファー法および構築プロトコル

### 必要な材料

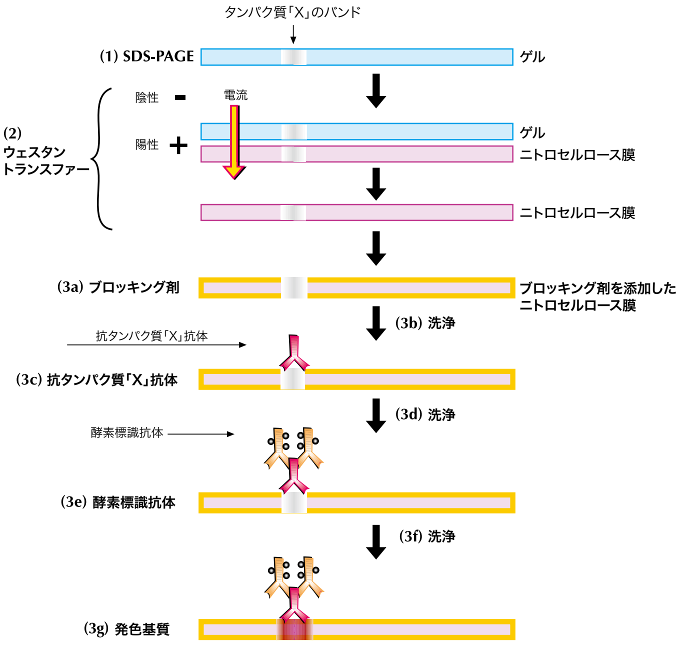
- SDS-PAGE装置および付属品
- ウェスタントランスファーカセットおよび付属品
- ウェスタントランスファーバッファーにあらかじめ5分間浸漬したゲルと同じくらいの大きさのニトロセルロース膜（注：膜を取り扱う際には、外来タンパク質による汚染を回避するために手袋と清浄なピンセットを使用します）。
- ウェスタントランスファーバッファー（TOWBINの半量）
  トリス塩基　1.45g（最終濃度12mM）
  グリシン　7.2g（最終濃度96mM）
  メタノール　200mL（最終液量20%）
  $diH_2O$　最終液量1.0Lに添加
- 抗原特異的結合抗体（一次抗体）
- 二次抗体（アルカリホスファターゼ標識ロバ抗プローブ抗体種）
- 市販のアルカリホスファターゼ標識基質キット

### トランスファーのプロトコル

1. 4～20%トリス-グリシンポリアクリルアミドゲル上にタンパク質試料をロードし、望ましい分離能に達するまで繰り返します（あらかじめ染色した分子量マーカーを用いて電気泳動を行うことができます）。
2. 次の記載に従って図III-2のようにウェスタントランスファーカセットを組み立てます。
   a. ウェスタントランスファーバッファーをあらかじめ充填したトレイ上にトランスファーカセット陰極板を浸します。

（次頁に続く）

**図 III-1 ウェスタントランスファー法プロトコルの概略図**



# ウェスタントランスファー法(ウェスタンブロット法)（続き）

b. スポンジ状のサポートパッドをカセット上に置き、パッド上でパスツールピペットを軽く回転させて気泡を除去します。

c. スポンジ状のサポートパッド上にブロッティングペーパーを載せます。

d. 電気泳動プレートからゲルを取り除き、膜がゲルにぴったり重なるようゲルの底を約3mm切り落とし、ブロッティングペーパーを覆うようにゲルを置きます。前述同様に気泡を除去します。

e. あらかじめ浸漬したニトロセルロース膜を慎重にゲルの上に載せ、気泡を除去します。処理の前に膜がゲルに直接覆いかぶさっている状態になっていることを確認します。

f. 2枚目のブロッティングペーパーをニトロセルロース膜に載せ、気泡を除去します。

g. スポンジ状のサポートパッドを2枚目のブロッティングペーパーに載せ、気泡を除去します。

h. 露出しているパッドの上に陽極板を被せ、カセットを軽く閉じます。

3. 組み立てたカセットは、事前充填レベルまでウェスタントランスファーバッファーが入ったトランスファータンクの中に慎重に入れ、カセットを加えた後に必要に応じてバッファーレベルを調節します。

4. 組み立てた装置を電気泳動用電源装置に接続し、一定の電流（400mA）で約1.5時間実行します。

## 発色(免疫染色)プロトコル

1. 転写完了後、ブロッキング溶液中で30分間、オービタルシェーカーで穏やかに攪拌しながら膜をインキュベートします。**注：**アッセイ条件によっては、様々なブロッキング溶液を検討することができます（例：di$H_2O$に溶解した3%脱脂粉乳、di$H_2O$に溶解した魚由来のブロッキングバッファー等）。

2. オービタルシェーカーの清浄なトレイの中でTBST（TBS、pH7.2、0.1% Tween 20添加）を用いて膜を3回洗浄します。各回の洗浄時間は5～10分とします。

3. TBSTでプローブ抗体（一次抗体）を希釈して50mL（最終濃度約0.20µg/mL）とし、抗体溶液中で室温にて1～4時間、膜をインキュベートします（最適なインキュベーション時間は抗体と抗原の結合親和性によって変わるため、抗体毎にあらかじめ設定しなくてはなりません）。

4. ステップ2と同様に膜を3回洗浄します。

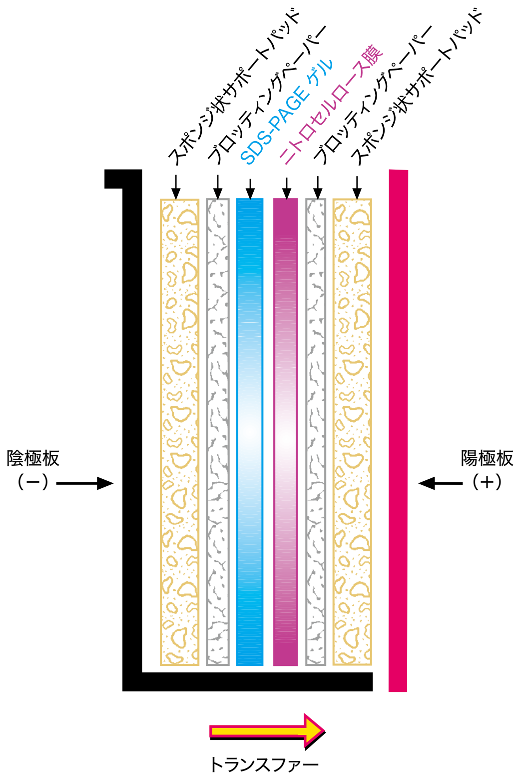
5. 製造元の規格に従ってTBSTで二次抗体を希釈します。希釈した二次抗体50mLを含む清浄なトレイの中で室温にて1時間、オービタルシェーカーで膜をインキュベートします。

6. ステップ2と同様に膜を3回洗浄します。

7. 発色には市販（例：Bio-Rad社製またはSigma社製）のアルカリホスファターゼ標識基質キットを使用する必要がありますので、製造元の指示に従ってください。

8. バンドが明確に可視化された後には、di$H_2O$が入ったトレイに少なくとも10分間、膜を入れておいて発色反応を停止させます。

### 図 III-2 ウェスタントランスファーカセット



# ウェスタントランスファー法 よくある質問

1. ペプロテックのウェスタントランスファー法プロトコルに従った場合、免疫染色の所要時間はどのくらいになりますか？

　ウェスタントランスファー法のプロセスには、タンパク質の転写からバンドの可視化まで約 6 時間を要します。

2. どの種類の分子量マーカーを使用すべきですか？

　当社では、Novex® Sharp Protein Standard 着色済み分子量マーカーを社内で実施するすべてのウェスタントランスファー法に使用しています。ただし、この分子量マーカーを使用しなくてはならないということではありません。しかし、ECL 検出法を用いない場合には、着色済み分子量マーカーを使用する必要があります。

3. ウェスタントランスファーで陽性コントロールの添加は必要ですか？

　はい。ウェスタントランスファーで目的のタンパク質をどのように可視化されるのかを正確に知るためには、ゲルに陽性コントロールを添加しなくてはなりません。ウェスタントランスファー法に当社の抗体を使用する場合には、それに対応する当社の組換えタンパク質（抗体に対する免疫抗原）の使用を推奨します。

4. ペプロテックのウェスタントランスファー法プロトコルで推奨さている発色システムを使用しなくてはならないのでしょうか？

　いいえ。ウェスタントランスファーの可視化に使用できる数多くのいろいろな発色システムがあります。ただし、酵素標識抗体の使用に対応した発色システムを選択しなくてはなりません。当社では、アルカリホスファターゼ標識二次抗体を使用しています。NBT/BCIP は、この酵素との使用に適しているため、当社のウェスタントランスファーの可視化に使用しています。

5. インキュベーション中には膜の攪拌は不可欠ですか？

　はい。インキュベーション中に膜を攪拌することが不可欠です。膜を攪拌しないと、抗体、ブロッキングバッファーおよび洗浄バッファーが膜に均等に作用しない可能性があるため、バックグラウンドにシミや斑点が生じるおそれがあります。また、抗体によるタンパク質の検出も制限される可能性があります。

6. 同一の抗体の異なるロットを使用した場合にウェスタントランスファー法の結果に差が生じるのはなぜでしょうか？

　ポリクローナル抗体の性質上、ロット間変動が生じる可能性があるためです。

7. タンパク質の転写ステップでろ紙は必要でしょうか？

　はい。タンパク質の転写ステップで障壁としてろ紙を挟む必要があります。このろ紙は、ゲルおよび膜がスポンジと直接接触することによって生じうる損傷を防ぐのに有用ですが、電流を妨害することはありません。

8. ウェスタントランスファー法では一次 / 二次抗体系でなく酵素標識一次抗体を使用することはできますか？

　はい。ウェスタントランスファー法を行うとき、一次 / 二次抗体系を使用する代わりに酵素標識一次抗体を使用することができます。しかし、抗原特異的な一次抗体を認識する標識二次抗体を使用すると、ウェスタントランスファー法で検出されるシグナルが酵素標識一次抗体のみを使用した場合と比べて増強されます。

# ウェスタントランスファー法 トラブルシューティングガイド

| 問題 | 考えられる原因 | 提案 |
|---|---|---|
| シグナルが弱い／シグナルがない | タンパク質の量が不十分である | • 試料中のタンパク質の量を増やしてください。<br>• タンパク質が存在していることを別の方法で確認してください。 |
| | ゲルの泳動時間が長すぎる | • 泳動時間を短縮して、ダイフロントを注視し、ダイフロントがゲルの底部の近くに到達したときに電流が切られていることを確認してゲルをモニタリングしてください。 |
| | タンパク質試料が古い／劣化している | • 標的タンパク質の新たな試料を試験してください。 |
| | タンパク質の転写量が多すぎる／タンパク質が適切に転写されなかった | • 孔径の小さい膜を使用してください。<br>• 低分子タンパク質（10kDa 未満）では電圧を下げてください。<br>• 膜が製造元の指示どおりにあらかじめ浸漬されていることを確認してください。<br>• 標的タンパク質の分子量によって適切な転写時間が異なりますので、転写時間をチェックし最適化してください。<br>• 転写用の「サンドイッチ」が適切に組み立てられており、ゲルと膜の接触が十分であることを確認してください（転写用「サンドイッチ」の適切な組み立てについては当社のウェスタントランスファー法プロトコルをご覧ください）。<br>• 適切な転写バッファーが使用されていることを確認してください。<br>• 転写の際に SDS が添加されると、ニトロセルロース膜の使用時にタンパク質の結合能が低下する可能性があります。<br>• 結合能を高めるために転写バッファーに 20% メタノールを添加してください。<br>• ポンソー S などの可逆的染色で膜を染色して主なバンドを可視化することにより、タンパク質の転写状況をチェックしてください。 |
| | タンパク質のpHが9を超えている | • さらに pH の高いバッファー（つまり、CAPS バッファー、pH 10.5）と交換してください。 |
| | タンパク質がブロッキングバッファーによってマスクされている | • 別の種類のブロッキングバッファーを使用して試験してください。<br>• ブロッキングバッファーのタンパク質濃度を最適化してください。当社では $diH_2O$ に溶解した 3% 脱脂粉乳を推奨します。 |
| | 酵素阻害剤が存在している（例：アジ化化合物） | • HRP シグナルを阻害するため、バッファーがアジ化ナトリウムを含有していないことを確認してください。 |
| | 一次抗体が古い / 劣化している | • 貯法や使用期限に関する製造元の推奨事項をチェックしてください。使用期限が切れていたり保存期間が過ぎていたりする場合には、新たな抗体を購入してください。<br>• 抗体に対して凍結融解サイクルを繰り返した場合には、構造およびタンパク質と抗体の結合に影響する可能性があるため、新たな抗体を購入してください。<br>• 抗体の活性が失われていないことを確認するために、ドットブロット法を実施してください。 |
| | 一次抗体や二次抗体の量が不十分である | • 抗体濃度に関する製造元の推奨事項をチェックしてください。<br>• 個々の分析の至適条件を設定するために、幅広い濃度を検討してください。 |
| | 一次抗体が不適切である | • 一次抗体が検討対象の動物種に由来する標的タンパク質と反応することを確認してください（つまり、ウサギ抗ヒト VEGF →ヒト VEGF)。 |
| | 二次抗体が不適切である | • 使用する二次抗体が一次抗体の動物種に対する抗体であることを確認してください（つまり、ロバ抗ウサギ IgG →ウサギ抗ヒト VEGF)。 |
| | 一次抗体のインキュベーションが不十分である | • 一次抗体のインキュベーション時間を延長してください。抗体は、室温で少なくとも 1 時間または 4˚Cで一晩、インキュベートすることができます。 |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| 問題 | 考えられる原因 | 提案 |
|---|---|---|
| シグナルが弱い／シグナルがない（続き） | 二次抗体のインキュベーションが不十分である | • 二次抗体のインキュベーション時間を延長してください（インキュベーションの時間と温度に関する製造元の推奨事項をご覧ください）。 |
| | 膜の過度の洗浄 | • 洗浄時間を短くして同時に洗浄回数を減らすか、またはそのいずれかを行ってください。<br>• 界面活性剤不含の洗浄バッファーまたは界面活性剤濃度の低い洗浄バッファーを使用してください。 |
| | 発色試薬の相性が悪い | • 使用している発色試薬酵素標識抗体に対応していることを確認してください。<br>• 基質が製造元の指示に従って適切に作製されていることを確認してください。 |
| | 塩類が過剰に存在する | • 洗浄バッファー中の塩類の量を減らしてください。<br>• 抗体希釈バッファー中の塩類の量を減らしてください。 |
| | 発色試薬が劣化している／不適切である | • 発色試薬が適切に調製されたことを確認してください。<br>• 試薬の活性が失われていないことをチェックしてください。活性が失われている場合には新たな試薬を購入してください。 |
| | フィルムが不良である／使用期限が切れている（ECL 法の場合） | • フィルムが使用期限が切れていない / 露出していないことを確認してください。使用期限が切れていたり露出していたりする場合には、新たなフィルムを購入してください。 |
| | ECL 現像液が古い／使用期限が切れている（ECL 法の場合） | • 新たな ECL 現像液を使用してください。 |
| | フィルムへの露光時間が短すぎる（ECL 法の場合） | • フィルムへの露光時間を延長してください。 |
| | クリングフィルムが反応に干渉する（ECL 法の場合） | • 別の等級のクリングフィルムを使用してください。 |
| バックグラウンドが高い | 抗体濃度が高すぎる | • 一次および / または二次抗体濃度に関する製造元の推奨事項をチェックしてください。<br>• 個々の分析の至適条件を設定するために、幅広い濃度を検討してください。 |
| | 抗体のインキュベーションが過剰である | • 製造元のプロトコルをチェックし、インキュベーションの時間と温度が適切であることを確認してください。この情報が製造元から提供されていない場合には、試験によってインキュベーション時間を最適化してください。 |
| | 抗体の非特異的な結合がみられる | • 一次抗体が標的タンパク質のみに特異的であることを確認してください。<br>• 一次抗体のインキュベーションを省き、コントロール実験を行ってください。バンドが発現した場合には、別の二次抗体を選択してください。<br>• 二次抗体に別の宿主動物種を選択してください。 |
| | 抗体がブロッキングバッファーおよび／または試料中のタンパク質と交差反応している | • 組成の異なるブロッキングバッファーを使用してください。<br>• ヤギ抗体はウシタンパク質をわずかに認識するため、BSA と反応します。これによって膜上には紫色の光沢が生じます。この場合には、別の動物種の抗体または別の種類のブロッキングバッファーを使用してください。<br>• 二次抗体を懸濁する場合には、標的タンパク質と同じ動物種由来の 1 ～ 5% 正常血清を含有するバッファーで抗体を希釈してください。 |
| | ブロッキングバッファーが無効である | • 組成の異なるブロッキングバッファーを使用してください。<br>• Tween 20 などの界面活性剤をブロッキングバッファーに添加してください。 |

# ウェスタントランスファー法 トラブルシューティングガイド（続き）

| 問題 | 考えられる原因 | 提案 |
|---|---|---|
| バックグラウンドが高い（続き） | ブロッキングが不十分である | • 組成の異なるブロッキングバッファーを使用してください。<br>• ブロッキングバッファーのロットが活性を失っている可能性があります。新たなブロッキングバッファーを使用してください。<br>• 4℃で一晩、ブロッキングを行う場合、低温になると効果が下がることから、ブロッキング効果が低下する可能性があります。室温で 1 時間のインキュベーションを試してください。<br>• ブロッキングバッファーに Tween 20 を添加してください。<br>• ブロッキングステップのインキュベーション時間および／または温度を最適化してください。 |
| | 洗浄が不十分である | • 各ステップの後には 1 回 10 分で 3 回、膜を洗浄してください。これでも十分でない場合には、洗浄時間を延長してください。<br>• 洗浄バッファーに別の種類の界面活性剤を使用してみるか、添加されていない場合には Tween 20 を添加してください。<br>• 使用する洗浄バッファーの量を増やしてください。 |
| | 発色基質のインキュベーションが過剰である | • 発色溶液のインキュベーション時間を短縮してください。バンドが認められるまで発色状況をモニタリングし、d$iH_2O$ で膜を洗浄することによって反応を停止させてください。 |
| | 酵素が過剰に存在している | • 選択した酵素標識抗体の濃度を下げてください。 |
| | 内在性酵素による干渉 | • 脱脂粉乳は、内在性ビオチンを含有しているため、アビジン / ビオチン検出系に干渉する可能性があります。3% BSA などの別の種類のブロッキングバッファーを使用してください。 |
| | 試薬の汚染が生じている | • 使用前にバッファーをろ過し、汚染物質を除去してください。<br>• 新たなバッファーを調製し、ウェスタントランスファー法を再度実行してください。 |
| | 膜に問題がある | • 新たな膜を試してください。<br>• 手順全体を通して膜を乾燥させてもよいのは、転写と免疫染色の間のみです。免疫染色を始めたら、免疫染色の手順が終了するまで膜を乾燥させてはいけません。その他免疫染色の手順の間のどの時点であっても膜を乾燥させた場合にはウェスタントランスファー法を再度実行してください。 |
| | ECL フィルムへの露光が過度になっている（ECL 法の場合） | • フィルムへの露光時間を短縮してください。<br>• 標的タンパク質からのシグナルが強すぎる場合には、5 ～ 10 分待ってからフィルムに再露光を行ってください。 |
| バックグラウンドにシミがある | インキュベーション中の攪拌が均一でなかった | • インキュベーション中に膜が振盪器または攪拌器で均一に攪拌されていることを確認してください。 |
| | インキュベーションバッファーの量が不十分である | • 各インキュベーション中には膜を完全に浸漬し溶液中に膜を自由に浮遊させることができるだけの十分な量の溶液があることを確認してください。 |
| | 転写の際に気泡が生じている | • 転写を開始する前に転写用「サンドイッチ」から丁寧に気泡をすべて除去してください。これは、ローラーまたは清浄なガラス棒 / パスツールピペットを用いて行うことができます。 |




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| 問題 | 考えられる原因 | 提案 |
|---|---|---|
| バックグラウンドにシミがある（続き） | 膜に問題がある | • 製造元のプロトコルに従って膜を十分に湿潤させていることを確認してください。<br>• 膜の取り扱いは慎重に行ってください。取り扱いを誤ると非特異的結合の原因となる可能性があります。<br>• 膜を素手で取り扱うと膜の汚染につながる可能性があるため、膜を取り扱う際にはピンセットを使用するか、手袋を着用してください。 |
| | HRP 標識抗体の凝集が起こっている | • HRP を使用する場合には、標識抗体をろ過して HRP の凝集物を除去してください。<br>• HRP 標識抗体の新たな試料を使用してください。 |
| | 試薬の汚染が生じている | • 使用前にバッファーをろ過し、汚染物質を除去してください。<br>• 新たなバッファーを調製し、ウェスタントランスファー法を再度実行してください。 |
| 非特異的なバンドが出る | 抗体濃度が高すぎる | • 一次および / または二次抗体濃度に関する製造元の推奨事項をチェックしてください。<br>• 個々の分析の至適条件を設定するために、幅広い濃度を検討しください。 |
| | 抗体が古い / 劣化している | • 貯法や使用期限に関する製造元の推奨事項をチェックしてください。使用期限が切れていたり保存期間が過ぎていたりする場合には、新たな抗体を購入してください。<br>• 抗体に対して凍結融解サイクルを繰り返した場合には、構造およびタンパク質と抗体の結合に影響する可能性があるため、新たな抗体を購入してください。 |
| | 一次抗体の非特異的な結合がみられる | • 一次抗体の濃度を下げてください。<br>• ゲルに添加するタンパク質の濃度をチェックしてください。<br>• モノクローナル抗体や抗原親和性精製ポリクローナル抗体など特異性の高い抗体を使用してください。<br>• Tween 20（0.1 ～ 0.5%）などの界面活性剤を一次抗体溶液および / またはブロッティングバッファーに少量添加してください。<br>• 洗浄の回数を増やすか、洗浄時間を延長してください。 |
| | 二次抗体の非特異的な結合がみられる | • 二次抗体の濃度を下げてください。<br>• 一次抗体のインキュベーションを省き、コントロール実験を行ってください。<br>• バンドが発現した場合には、別の種類の二次抗体を選択してください。<br>• Tween 20（0.1 ～ 0.5%）などの界面活性剤を二次抗体溶液に少量添加してください。<br>• 洗浄の回数を増やすか、洗浄時間を延長してください。 |
| | 標的タンパク質の凝集が生じている | • DTT、BME などの還元剤を添加するか増量し、すべてのジスルフィド結合が還元されるようにしてください。<br>• ゲルにロードする前に、温浴槽で 5 ～ 10 分間、タンパク質試料を加熱してください。<br>• ゲルに添加するタンパク質の濃度をチェックしてください。濃度が高すぎるとタンパク質の凝集の原因となる可能性があります。タンパク質の濃度を下げウェスタントランスファー法を再度実行してください。 |
| | タンパク質試料が劣化している | • 新たな試料を調製し、試料の凍結融解サイクルを最小限にしてください。<br>• プロテアーゼ阻害剤を試料に添加してから保存してください。<br>• 試料は -20℃から -80℃までの範囲で保存してください。 |

# ウェスタントランスファー法 トラブルシューティングガイド（続き）

| 問題 | 考えられる原因 | 提案 |
|---|---|---|
| 非特異的なバンドが出る（続き） | ブロッキングが不十分である | • 組成の異なるブロッキングバッファーを検討してください。<br>• ブロッキングバッファーのロットが活性を失っている可能性があります。新たなブロッキングバッファーを使用してください。<br>• 4℃で一晩、ブロッキングを行う場合、低温になると効果が下がることから、ブロッキング効果が低下する可能性があります。室温で 1 時間のインキュベーションを試してください。<br>• ブロッキングバッファーに Tween 20 を添加してください。<br>• ブロッキングステップのインキュベーション時間および / または温度を最適化してください。 |
| | SDS によって固定したタンパク質のバンドとの結合が促進されている | • タンパク質の転写後に膜が十分に洗浄されていることを確認してください。<br>• ニトロセルロース膜を使用する免疫染色では SDS を使用してはいけません。 |
| | 酵素が過剰に存在している | • 選択した酵素標識抗体の濃度を下げてください。 |
| | 試薬の汚染が生じている | • 使用前にバッファーをろ過し、汚染物質を除去してください。<br>• 新たなバッファーを調製し、ウェスタントランスファー法を再度実行してください。 |
| 拡散したバンド／曖昧なバンド | 抗体濃度が高すぎる | • 一次および / または二次抗体濃度に関する製造元の推奨事項をチェックしてください。<br>• 個々の分析の至適条件を設定するために、幅広い濃度を検討してください。 |
| | ゲル上のタンパク質が過剰である | • ゲルにロードする前にタンパク質試料をさらに希釈してください。 |
| | ゲルが過熱されている / 電圧が高い | • 熱によってゲルはその構造と分離能を失います。転写リザーバが氷浴槽中で作動していることを確認してください。<br>• 転写の際に使用する電圧または電流を下げてください。 |
| | 膜の作製に誤りがある | • 膜を適切な転写溶液にあらかじめ浸漬してください（製造元のプロトコルをご覧ください）。膜の浸漬時間が適切であることを確認してください。 |
| 白抜きのバンド（ECL 可視化法） | 抗体またはタンパク質濃度が高すぎる / 過剰なシグナルが発生している | • バンドが白抜きになるのは、標識抗体の量が多すぎるために基質が急速に消費された結果です。この原因は抗体および / またはタンパク質の濃度が高すぎることにあります。抗体および / またはタンパク質濃度に関する製造元の推奨事項をチェックしてください。 |




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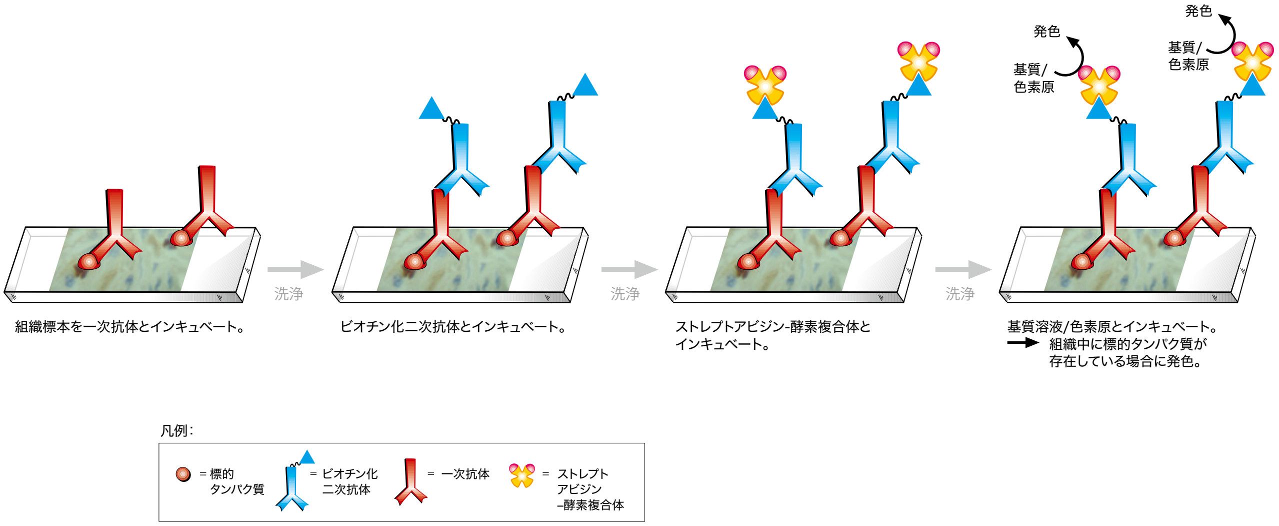
# 免疫組織化学検査

組織や細胞の分析によって特定のタンパク質の有無を確認することは、数多くの臨床診断および研究プログラムの重要な要素となります。免疫組織化学検査（immunohistochemistry: histo ＝組織）と免疫細胞化学検査（immunocytochemistry: cyto ＝細胞）は、標的タンパク質とそれに対応する抗体との間で生じる特異的な相互作用を利用して複合体液中に存在する標的タンパク質を可視化することができる有力な手法です。免疫組織化学検査（IHC）と免疫細胞化学検査という用語は、細胞と組織が密接に関係していることからしばしば同義で用いられます。

IHC で用いられる 2 種類の一般的な検出法は、免疫蛍光法と免疫酵素染色法です。免疫蛍光法では検出抗体をフルオレセインやローダミンなどの蛍光体で直接的または間接的に標識します。免疫酵素染色法では検出抗体を西洋ワサビペルオキシダーゼ（HRP）やアルカリフォスファテーゼ（AP）などの色素原活性化酵素で直接的または間接的に標識します。このように IHC のプロトコルには直接法と間接法の両方があり、研究者は組織の由来や標的抗原に最適な検出方法を選ぶことができます。この柔軟性は、検出系にビオチンを使用せずに、かつ高いシグナルの得られる間接法のポリマー法など、IHC プロトコルに多様性を与えています。図IV -1 は間接的免疫酵素法の使用例です。

細胞や組織を用いる作業には、これらの構造体の性質が緻密で複雑であるために困難な問題が起きる可能性があります。これらの複合試料を正確に検討するためには、分析対象の組織を可能な限り本来の状態に維持することが不可欠となりますが、これは固定という操作で実現できます。固定のプロセスは、免疫組織化学検査の基礎であり、試料中に存在するタンパク質や構造体の完全性と真正性を維持するのに役立ちます。これは通常、凍結、化学固定剤での処理および組織試料のパラフィン包埋を組み合わせて組織試料中に存在する固有の変性プロセスを抑制することで達成できます。最もよく使用されている固定の組み合わせは、ホルマリン固定パラフィン包埋

図 IV-1 間接的免疫酵素検出法



# 免疫組織化学検査（続き）

（FFPE: Formalin-Fixed Paraffin-Embedded）です。標的タンパク質を最大限に認識するためには、分析対象試料の種類毎の固定プロセスを最適化することが必要です。固定プロセスの最適化に影響する要因としては、検出抗体の純度、親和性および特異性、標的タンパク質の構造および安定性、組織試料の構造的および生化学的特徴などがあります。

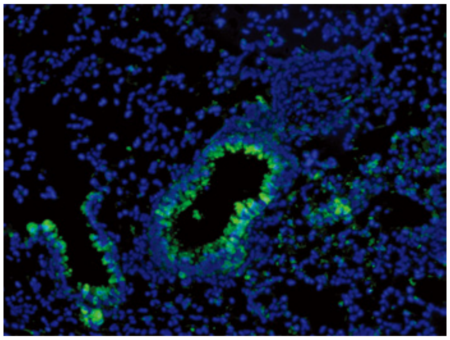
固定プロセスは、組織の完全性を維持するのに非常に重要である一方で、化学修飾、立体構造変化またはタンパク質凝集の誘導によって標的タンパク質上にある抗体認識エピトープを遮蔽してしまうことが多くあります。そのため、大部分の IHC 法には、「抗原回復」や「エピトープ回復」と呼ばれることの多い抗原賦活化処理が含まれています。この抗原賦活化プロセスには HIER（Heat-Induced Epitope Retrieval）や PIER（Protease-Induced Epitope Retrieval）を含め幾つかの方法があり、試料および標的タンパク質に応じて単独で使用することも併用することもできます。

IHC 法に用いられることの多い検出法は、大きく分けて直接的検出法と間接的検出法の 2 種類に分類することができます。直接的検出法では、蛍光を発したり色素原を活性化させたりすることができる、標的タンパク質に直接結合する標識抗体を利用します。この方法には、簡素で、大部分において非特異的結合が少なく、分析の実行時間が短いという利点があります。間接的検出法では、非標識一次抗体を最初に標的タンパク質に結合させ、その後標識二次抗体によって認識させるという方法を用います。IHC の間接的検出法には 3 段階で構成されるものもあり、非標識二次抗体を用いて、その後この抗体を標識三次抗体に認識させます。間接的手法の多くでは、複数のステップにわたる検出手順である程度シグナルが増強するため、結果として分析感度が高まります。

## 参考資料

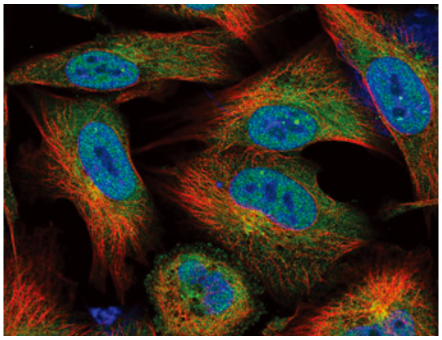

(1) Boenisch, Thomas ed. Immunochemical staining procedures handbook. 3rd ed. Carpinteria, CA; 2001.

(2) Janeway, et al. Immunobiology: the immune system in health and disease. 6th ed. New York: Garland Science, 2005.

### Rabbit Anti-Murine RELMα

カタログ番号 500-P214
濃度0.2μg/mLのRabbit Anti-Murine RELMαで染色したマウス肺組織（感染マウスからの4% PFA固定）。
*Information and photo are courtesy of Meera Nair and David Artis, University of Pennsylvania.*



### Rabbit Anti-Human IL-6

カタログ番号 500-P26
濃度3.0μg/mLのRabbit Anti-Human IL-6で染色したBJ ras細胞。癌細胞の細胞質が赤色に染色されています。
*Information and photo are courtesy of the Cell Profiling Group, SciLifeLab Stockholm.*

# 免疫組織化学検査 トラブルシューティングガイド

| 問題 | 考えられる原因 | 提案 |
|---|---|---|
| 染色が弱い / 染色されない | 組織の処理 | • 組織の処理の際に抗原が破壊されてしまった可能性があります。<br>• 免疫染色の手順の前に組織が適切に作製されていることを確認してください。適切な固定剤、固定時間、包埋用試薬および包埋法を使用してください。薄切には適切な方法と装置を使用してください。IHC で推奨される組織厚は 4µm です。ホルマリン固定パラフィン包埋組織では、スライドを完全に脱パラフィンし再水和させてください。必要に応じてキシレンとアルコールを交換してください。 |
| | 抗原回復（エピトープ回復） | • 抗原回復の至適条件を決定してください。抗原回復を行わずに組織切片を染色することを検討してください。<br>• 加熱処理法（HIER: Heat-Induced Epitope Retrieval）を使用します。温度を調節し維持してください。pH（適切なバッファーを使用すること）と時間を調節してください。<br>• 酵素処理法（EIER: Enzyme-Induced Epitope Retrieval）を使用します。適切な酵素（例：プロテイナーゼ K）を選択し、インキュベーション時間を調節してください。室温または加熱処理で行ってください。<br>• 抗原回復溶液を再使用してはいけません。洗浄を適切に行ってください。 |
| | 一次抗体 | • 抗体がデータシートに従って適切に調製されていることを確認してください。<br>• 開栓前にバイアルを遠心してください。<br>• 抗体の溶解後、バイアルを遠心し、凝集塊が生じていたらそれを取り除いてください。<br>• 抗体溶液を分注し -20℃で凍結させてください。凍結融解サイクルを繰り返すことは避けること。<br>• 使用期限の切れていない抗体を使用してください。<br>• 抗体濃度を上げてください。<br>• インキュベーション時間を延長してください（例:4℃で一晩抗体を染色)。 |
| | 二次抗体 | • 一次抗体を適切な二次試薬または検出系と対応させてください。<br>• 二次抗体濃度を上げるか、インキュベーション時間を延長してください。 |
| | 検出システム | • 適切な検出系を使用してください。<br>• 酵素と色素原が適合することを確認してください（例：DAB 色素原には HRP 酵素が必要です)。<br>• 適切な順序で試薬を使用してください。<br>• 適切に洗浄を行ってください。<br>• 構成品は室温で使用してください。<br>• 使用期限の切れていない構成品を使用してください。<br>• ポリマー検出システムやチラミド増幅システムなど増幅検出システムを使用してください。直接標識システムは、増幅率が低く、シグナルが弱くなる可能性があります。<br>• アジ化ナトリウムは、西洋ワサビペルオキシダーゼ阻害剤であるため、HRP 標識二次抗体など特定の試薬に存在している場合には染色の結果に支障を来すことがあります。他の試薬にわずかな量のアジ化ナトリウムが含まれていても、免疫染色法に支障は生じないはずです。 |

# 免疫組織化学検査 トラブルシューティングガイド（続き）

| 問題 | 考えられる原因 | 提案 |
|---|---|---|
| 染色が弱い / 染色されない（続き） | 抗原 | • この抗原は特定の組織または検出にとって大きな意味を持つ濃度では存在していない可能性があります。<br>• 抗原のエピトープは、組織の処理の際や抗原回復の際に破壊されてしまった可能性があります。また、モノクローナル抗体を使用し、そのエピトープがマスクされたり破壊されたりした場合に抗体は染色されません。新たな組織試料の再染色または再処理を検討してください。<br>• 別の分析法で抗原の有無を判定してください（例：*in situ* ハイブリダイゼーション法)。 |
| | 色素原 | • インキュベーション時間を調節してください。色素原の沈殿がないかどうかチェックし、使用期限が切れたものを使用してはいけません。<br>• 色素原ごとに適切な封入剤を使用してください（例：DAB は永久封入剤で覆うことが可能で、アルコール不溶性の AEC には水性封入剤が必要です)。 |
| 過剰な染色 | 組織の処理 | • 免疫染色の手順の前に組織が適切に作製されていることを確認してください。適切な固定剤、固定時間、包埋用試薬および包埋法を使用してください。薄切には適切な方法と装置を使用してください。IHC で推奨される組織厚は 4µm です。ホルマリン固定パラフィン包埋組織では、スライドを完全に脱パラフィンし再水和させてください。必要に応じてキシレンとアルコールを交換してください。 |
| | 抗原回復 | • 組織抗原性が過剰に賦活化している可能性があります。インキュベーション時間と温度を調節してください。必要に応じ別の抗原回復法を使用してください。抗原回復を行わずに組織切片の染色を行ってください。 |
| | 一次抗体 | • 抗体がデータシートに従って適切に調製されてることを確認してください。<br>• 開栓前にバイアルを遠心してください。<br>• 抗体の溶解後、バイアルを遠心し、凝集塊が生じていたらそれを取り除いてください。<br>• 抗体溶液を分注し -20℃で凍結させてください。凍結融解サイクルを繰り返すことは避けること。<br>• 使用期限の切れていない抗体を使用してください。<br>• 抗体濃度を下げ、抗体のインキュベーション時間を調節してください。<br>• 一次抗体のインキュベーション直前に、タンパク質ブロックと一緒に組織標本をインキュベートしてください（後述の「タンパク質ブロック」をご覧ください)。 |
| | 二次抗体 | • 二次抗体の濃度を調節し、非特異的結合を起こす可能性の低い二次抗体を使用してください（例：交差吸着した抗体または $F(ab')_2$ フラグメント)。 |
| | 検出系 | • 非特異的結合を示さない検出系を使用してください。<br>• インキュベーション時間を調節してください。 |
| | 非特異的結合 | • 内因性分子および多価分子をブロックしてください。 |
| | 内因性分子 | • 組織の種類や染色法によって、内因性分子が存在して染色に支障を来す可能性があります。内因性ビオチン、内因性ペルオキシダーゼ、内因性ホスファターゼ、Fc 受容体などの内因性分子のブロッキングなど、組織毎に必要なブロッキングステップを決めてください。<br>• 内因性分子を完全にブロックすることが難しい場合には、別の染色法を選択してください（例：ビオチンが豊富な肝臓での非ビオチン検出法)。 |

| 問題 | 考えられる原因 | 提案 |
|---|---|---|
| 過剰な染色（続き） | タンパク質ブロック | • 二次抗体の宿主動物からのタンパク質ブロックまたは血清ブロックを用い、非特異的結合を防止してください（抗体は多価タンパク質で、分子の疎水性が非特異的染色の原因になることがあります）。<br>• 一次抗体のインキュベーションの前にタンパク質ブロックと一緒に組織標本をインキュベートしてください。 |
| | 洗浄が不十分である | • 洗浄時間を短くして同時に洗浄回数を減らすか、またはそのいずれかを行ってください。染色システム毎に適切な pH を使用してください（例：PBS またはトリス洗浄バッファー）。疎水性相互作用を抑制するため、Tween 20 などの界面活性剤を添加してください。 |
| | 色素原 | • インキュベーション時間を調節し、可能であれば色素原の濃度も調節してください。沈殿が生じていないかどうかチェックし、使用期限が切れたものは使用してはいけません。 |
| | 組織切片の乾燥 | • 免疫染色を行っている間は組織切片を乾燥させてはいけません。組織のインキュベーションの際には、加湿チャンバーと十分な量の試薬を使用してください。組織が試薬で覆われた状態を確保するため、PAP ペンを使用して組織切片の周囲に疎水性バリアを形成してください。 |
| 他の条件 | 試薬の使用期限 | • 免疫染色に使用するすべての試薬の使用期限をチェックしてください。 |
| | コントロール | • 陽性コントロールと陰性コントロールが有効であることを確認してください。 |
| | 界面活性剤による洗浄 | • 試薬の浸透性を高めるため、界面活性剤による洗浄ステップを追加してください（例：PBS/0.2% Triton X-100）。 |
| | 封入剤 | • 色素原毎に適切な封入剤を使用してください（色素原によって水性または非水性封入剤が必要になります）。 |
| | 対比染色 | • 対比染色の時間を最適化してください。 |
| | 自動染色 | • 適切な規格を満たすため、装置をチェックしてください。 |

# マイクロアレイ法

マイクロアレイ技術では、細胞、組織、体液など様々な生体試料で大量のタンパク質や核酸の検出と定量が同時に行うことができます。「マイクロアレイ」という用語は、ナイロン膜や顕微鏡スライドガラスなどの小型の固相担体または基板で、捕捉要素（抗体、タンパク質、オリゴヌクレオチド、cDNA など）が格子状にスポットされたものをいいます。マイクロアレイは、タンパク質ファミリーの評価、診断に有用な情報を得るための血清の探索、薬効発現のプロファイリング、特定の刺激因子で処理した細胞や特定の遺伝子を導入した細胞のプロファイリングなど、多くの用途に応用されています。手順のバリエーションが豊富ですが、マイクロアレイの作製に必須のステップは、（1）捕捉要素の合成、（2）固相担体表面の準備、（3）固相担体上への捕捉要素の固定化（ロボットアレイヤーを使用）、（4）固定した捕捉要素と目的分子の結合、（5）標的分子と捕捉要素の複合体の検出および定量の 5 つです。

抗体マイクロアレイでは、既知のタンパク質抗原に対する抗体を捕捉要素、固定化した抗体と特異的に結合するタンパク質を検出標的分子として用います。Cy3、Cy5、FITC、テキサスレッドなどの蛍光色素やビオチン西洋ワサビペルオキシダーゼなどの酵素系は、検出と可視化のための感度の良い手段となります。抗体マイクロアレイでは、ELISA やウェスタンブロット法など十分に確立している免疫測定法と同じ原理を数多く利用しています。ただし、マイクロアレイには、（精度に直接影響する）データポイントが多い、多数のタンパク質を同時に検出することができる、抗体や試料の必要量が少なくてすむなど、多くの利点があります。さらに、アレイが設計され、構成要素の妥当性が確認されれば、ロボットアレイヤーによって大きなサンプルグループで使用するために迅速に無制限に同じ内容でスポットすることができます。

この項目では、直接標識法と固相蛍光免疫検定法（FLISA : Fluorescence-linked Immunosorbent Assay）という抗体マイクロアレイの 2 種類のフォーマットに注目します。いずれの分析法とも、特異抗体を捕捉要素に使用します。直接標識法は、試料混合物中のすべてのタンパク質を捕捉前に標識することが FLISA と異なります。FLISA では、未処理の試料混合物から標的タンパク質を捕捉し、その後ビオチン化抗体と蛍光体標識二次抗体を用いて検出します。

マイクロアレイ法に使用する抗体は、純度が高く、交差反応性をほとんど示さず、従来の ELISA フォーマットで良好な性能を発揮することが明らかになっている場合に最も有効です。最初に抗体溶液をあらかじめ決定した至適濃度に調製し（通常 300 ～ 500µg/mL）、次にプリントプレートまたはマイクロタイタープレートに移します。このプレートをロボットアレイヤーが操作して、スポットされた状態の固相担体を作製します。抗体 1 種類あたり 6 ～ 10 回の繰り返しで十分であり、研究者の必要に応じてアレイ 1 枚あたり最大 500 種類の抗体をスポットして固定化し、比較を行うことが可能です。スポットされた担体は、BSA 溶液で少なくとも 1 時間処理することによってブロックすれば、分析対象の試料（血清、尿、細胞溶解液など）に曝露する準備が整います。

直接標識検出法を図Ⅴ -1 に図示します。複雑な混合物中のすべてのタンパク質は、捕捉要素とのインキュベーションの前に蛍光体（図Ⅴ -1A）またはビオチンのいずれかで標識します。次にアレイを洗浄して走査し、データ解析を行います。試料間のシグナル強度の比較を行い、検出対象タンパク質の相対的な量や発現量を測定することができます。あるいは、明確な蛍光体で標識した較正済みの標準タンパク質とシグナル強度の比較を行えば、発現量を正確に定量的に測定することが可能です（図Ⅴ -1B）。この方法の利点は、簡便さと標的 1 個につき必要な特異抗体が 1 個でよいということです。主な欠点は、試料混合物中のすべてのタンパク質（例：血清中のアルブミン）を標識する結果としてバックグラウンドシグナルが高くなることです。検出感度は、標的タンパク質と比較した場合のバックグラウンドのタンパク質の濃度によって制限され、通常は血清で約 100ng/mL となります。

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FLISA 法（図V -2）では、マイクロアレイ上にスポットされた抗体が非標識の標的タンパク質を捕捉します。この後、それぞれの抗体がスポットされた捕捉抗体のひとつに対応しているビオチン標識抗体の混合物とインキュベートします。最後に、蛍光体標識抗ビオチン二次抗体などの適切な検出抗体と一緒にアレイをインキュベートします。FLISA 検出フォーマットは、バックグラウンドが大幅に低減されるため、直接標識法と比べて感度が高くなります。このフォーマットでの感度は、チラミドシグナル増幅法やローリングサークル増幅法でさらに一層高めることができます。しかし、多くの標的を測定する分析法の最適化はこのフォーマットでは難しいと考えられます。したがって、FLISA 検出法は通常、直接標識法の検出限界未満の濃度で存在している数少ない標的に対してのみ使用されます。分析法の検出限界は使用する抗体の親和性および特異性、試料のバックグラウンドのタンパク質、選択した検出条件などの多くのパラメータに左右されますが、FLISA 法の検出限界は pg/mL で表される低い数値の範囲に入ると思われます。

## 参考資料

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CA: Humana Press Inc.; 2004.
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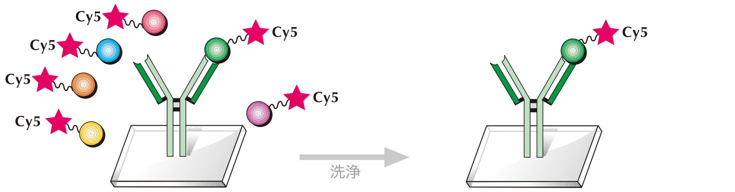
# マイクロアレイ法（続き）

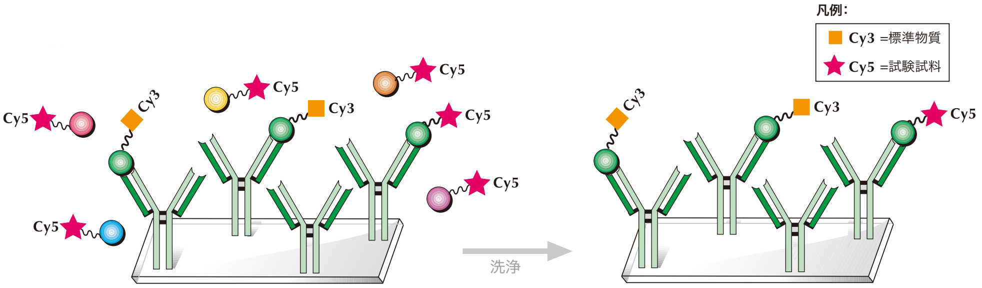
## 図 V-1A 直接蛍光体標識（Direct Fluorophore Labeling）




試料中のすべてのタンパク質を蛍光体で標識します。固定化された捕捉抗体によって認識されるのは標的タンパク質のみです。

結合しなかったタンパク質を洗い流した後、アレイを走査して蛍光シグナルを確認します。

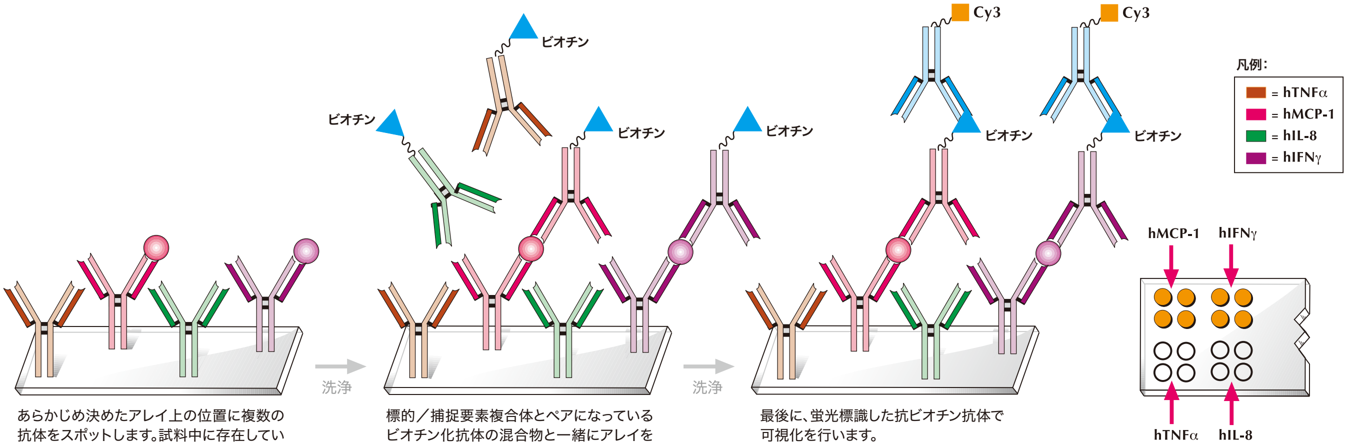
## 図 V-1B 多色検出（Multi-Color Detection）




試験試料中のすべてのタンパク質をCy5で標識し、その後濃度が明らかになっているCy3標識標準物質と混合します。

標識タンパク質のシグナル強度を比較すると、試験試料中に存在しているタンパク質を定量的に測定することができます。

## 図 V-2 FLISA




あらかじめ決めたアレイ上の位置に複数の抗体をスポットします。試料中に存在しているタンパク質は対応する抗体と結合します。

標的／捕捉要素複合体とペアになっているビオチン化抗体の混合物と一緒にアレイをインキュベートします。

最後に、蛍光標識した抗ビオチン抗体で可視化を行います。

各位置のシグナル強度は特定の分析対象物質の有無を示しています。

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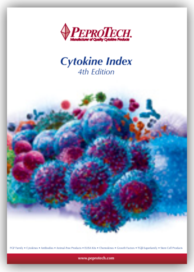
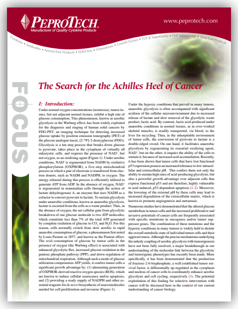
# カタログと資料

　ペプロテックでは本カタログ以外にも以下のカタログと資料（英語版）を取り揃え、お客様に新製品情報やライフサイエンス研究の最新情報をお伝えしています。




**Cytokine INDEX**
350以上のサイトカインを掲載した360ページのデータシート形式の製品カタログ。
（25cm x 21.5cm）

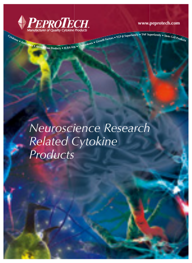
**Product Update**
新製品情報等を掲載した季刊ニュースレター。
（28cm x 21.5cm）




**The Focus**
過去に発行された旧版UPDATEの掲載記事をまとめた研究テーマ別資料。
（28cm x 21.5cm）

**Stem Cell Research Related Cytokine Products**
幹細胞研究に使われるサイトカインを掲載した44ページのパンフレット。
（22cm x 15cm）

**Immunology Research Related Cytokine Products**
免疫学研究に使われるサイトカインを掲載した48ページのパンフレット。
（22cm x 15cm）



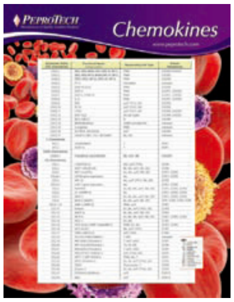

**Neuroscience Research Related Cytokine Products**
神経科学研究に使われるサイトカインを掲載した32ページのパンフレット。
（22cm x 15cm）

**FGF Family**
FGFサイトカインファミリー、標的細胞、受容体などを記載したカラーポスター。
（56cm x 43cm）

**TGF-β Superfamily**
TGF-βスーパーファミリーに関する情報を記載したカラーポスター。
（56cm x 43cm）

**VEGF/PDGF Family**
VEGF/PDGFファミリーに関する情報を記載したカラーポスター。
（56cm x 43cm）

**TNF Superfamily**
TNFスーパーファミリーの体系的な命名法を記載したカラーポスター。
（56cm x 43cm）




**Chemokines**
ケモカインの体系的な命名法を記載したカラーポスター。
（56cm x 43cm）

**Neurotrophins/ Neuropoietic Cytokines**
ニューロトロフィン/神経新生サイトカインに関する情報を記載したカラーポスター。
（56cm x 43cm）

**Cytokine Network**
免疫システム細胞間の複雑なサイトカインシグナル伝達を図解したカラーポスター。
（61cm x 43cm）

メモ:



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